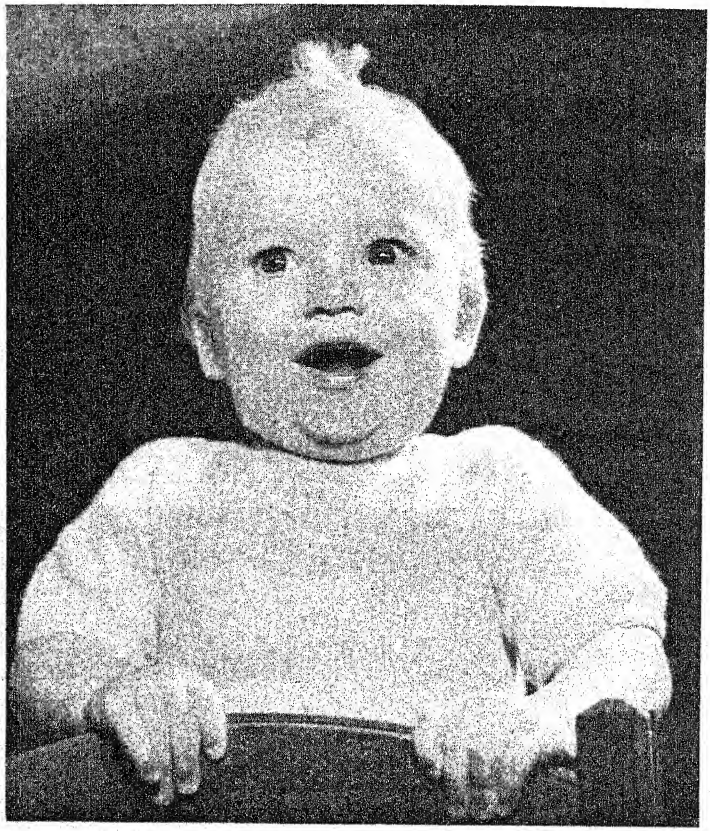

THE COMING GENERATION

THE CARE OF YOUNG BABIES

by

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With a Foreword

by

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Second Edition

With 7 Plates and 7 Text Figures

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FOREWORD

ALTHOUGH I have read many popular books on the rearing of infants, I have met with none better than this. Dr. Gibbens seems to have struck just the right note. The information he gives is comprehensive, but couched in simple language which any mother can understand, and the author is free from those fads which so often mar books of this sort. It should be of real interest and help to the young mother as well as to nurses, and to such I cordially commend it.

ROBERT HUTCHISON.

LONDON.

PREFACE TO THE SECOND EDITION

THE first edition of this book was published in the spring of 1940, and in spite of war and publishing difficulties it has met with a wide success. The time has now come for a second edition. The whole book, therefore, has been revised and much of it re-written, once again in the simplest possible English, so that there should be no doubt whatever as to its meaning. "For Husbands and Fathers" has been expanded from a section into a chapter; "Breast-feeding" and "Difficulties in Breast-feeding" revised in the light of Dr. Harold Waller's pioneer work at the British Hospital for Mothers and Babies at Woolwich; and the section on Sleep elaborated in view of Professor Arnold Gesell's researches at Yale University. An appendix on the Maternity and Child Welfare Centre has been added, also a list of useful addresses in case a mother should need further advice about her child. It is hoped that readers will like the appearance of the illustrations, several of which are new to this edition.

I am deeply indebted to Dr. Harold Waller and Miss Raynham-Smith of the Babies' Club, Chelsea, who have read this second edition while still in manuscript. Dr. Dorothy Taylor and Dr. J. A. H. Brincker of the Ministry of Healt were also most kind in supplying me with facts and figur

for the sections on the Maternity and Child Welfare Centre, and Diphtheria Immunisation. Once again Mr. J. Rivers, of Messrs. J. & A. Churchill, has been most helpful with all the details of publication.

Finally, I should like to thank my wife for her humour and forbearance while I was busily working away at the revision. She has had to listen to much of it read aloud, she has helped to puzzle over the right phrase for a particular context, and she has been a first-rate critic. I sincerely hope that this edition will be most helpful to mothers and nurses and doctors and all who have to do with the welfare of young babies.

JOHN GIBBENS.

LONDON.

PREFACE TO THE FIRST EDITION

IT is a curious fact that the young woman of to-day, faced with the arrival of her first baby, has little simple literature to which she can turn for help and guidance in bringing up her child. Some books are frankly medical and intended solely for doctors : others are so full of descriptions of dread diseases to which the flesh is heir that a young mother may be forgiven for feeling that the rearing of a young child is a dangerous and difficult task, not to be entered upon lightly : while others again are written to advocate some complicated method of infant-feeding, quite impracticable if perhaps the child has to be brought up in the country. Few, so it seems to me, take a wide view of the subject, few stress the fact that bringing up a baby is, or should be, a grand job, a pleasure to both father and mother : that given common-sense and consistency and an ability to take trouble over details, most babies can be brought up easily and straightforwardly. For health is a baby's natural heritage if he is born of healthy parents ; it is only in a very few cases that the rearing of babies is a tricky and troublesome affair. I have written this small book in an attempt to make good the deficiencies, as I see them, of the books at present on the market. Some critics, pinning their faith wholeheartedly to the maternal instinct, that most pitiably weak

and inconsistent of all instincts, will doubt the value of *any* book on the care of young babies: professing that books tend to destroy the natural initiative and self-confidence of the young mother, that she will usually do the right thing if thrust back on her own resources. The terrible infant mortality rate during the latter years of the Victorian era is their answer. Others will say that books serve no useful purpose since no two children can be brought up alike. This I think is a dangerous half-truth, one that has been responsible for much trouble, since it has favoured the fatally easy policy of letting things slide. The vast majority of babies *can* be brought up on the same general principles: it is only in details that they differ.

A word to the reader. Don't imagine that you will receive any credit from your friends if your baby's health and behaviour prove to be excellent. Other mothers will be sure to say how lucky you are to have a baby that is so easy to bring up, how unfortunate they themselves are that their babies are so difficult, that they catch cold so often, and are never really thriving. Your baby's easy obedience and good manners will be put down to a placid temperament; their babies will be excused any tantrums and bad behaviour on the grounds that they are "far too independent and high-spirited to obey." Let your sense of humour come to the rescue, and remember that this is the way of the world.

I should like to thank Sir Robert Hutchison for his generous foreword, Dr. Allan Hamilton for much sound advice and criticism when this book was in the early stages, also Miss Raynham-Smith and Miss Strudwick of the Babies' Club, Chelsea, for their constant friendliness and interest. I should like to thank also Mr. J. Rivers, of Messrs. J. & A. Churchill, for his unfailing kindness and help in shepherding this little book through the press.

Finally, I owe a special debt of gratitude to my wife, who has seen this book start from its earliest infancy. Together we have gone over every point, tried out every recipe, together we have enjoyed the fun of thinking and writing about babies.

LONDON. JOHN GIBBENS.

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THE CARE OF YOUNG BABIES

CHAPTER I

PREPARING FOR THE BABY

Now that you are going to have a baby, you will want to know how to do the best you can for him. You have to choose who is to be your doctor and where you are going to have the baby ; you will want to know how to keep yourself in perfect health throughout your pregnancy ; you will have to get the baby's clothes and cot and nursery ready. All this should be the greatest of fun. You must not regard pregnancy as a time of illness—indeed, quite likely you will find that you never felt better. Your hair gleams, your eyes sparkle, your skin is clearer, and your figure—especially if you have never had one before—becomes superb. You will feel calm and self-possessed, more alive to the beauty of the world, full of the deep consciousness of the new life within you. Having a baby should be a glorious adventure. Of course this is not always so. You may be living in poverty with little or no money behind you ; your husband may be ill or out of work ; your house may be in a dark, narrow street that never sees the sun. You may have hardly recovered from the effects of a difficult confinement before you find yourself involved in another ; you may have had marriage difficulties and be deeply disquieted at the thought of a baby ; you may have been married only a short time and be at your wits' end to know how to make ends meet. Don't let this disturb you too much. Accept the situation quietly, with humour and resolution, and do your best for the baby. It is not his fault if he is not wanted at present, and you may easily find when he does arrive that your feelings for him have entirely changed, and now you want him desperately.

How can you tell you are going to have a baby ? Firstly, by the stopping of your monthly periods. If you have always had regular periods up to the time of your marriage and for

a few months afterwards, sudden stoppage almost certainly means that you are pregnant. Soon after this you may notice a strange feeling of emptiness and nausea, and perhaps you may have morning sickness. Go to your doctor or your antenatal clinic and ask their advice. Until you are three months pregnant it is not possible for a doctor to examine you internally and say quite certainly that you are going to have a baby ; but nowadays there are chemical tests on the urine, tests which, if you are pregnant, are positive within two weeks of your missing a period. Your doctor may arrange for these to be done, but they are rather expensive and only worth while in exceptional cases.

Your next thought is : when will he be born ? The calculation is simple. Take the first day of your last period and add on one week and nine months : in other words, if your last period began on January 1, your expected date is round about October 8.

During the 5th month you will feel the baby moving about —queer, light fluttering movements under your ribs at first, getting more noticeable as the days go by until you can feel and see the vigorous movements yourself. Of course the baby has been moving about before the 5th month, but the movements have been too weak for you to feel them.

Home *v.* Hospital or Nursing Home

You have next to decide who is going to look after you, a doctor or a midwife, and where you are going to have your baby—at home, at a maternity hospital or at a nursing home. Weigh up the advantages and disadvantages of each, and talk it over with your husband before coming to any definite decision.

Home

About two-thirds of the babies in England are born at home, and the mother is looked after either by a doctor or by the district midwife. There is something very nice in having your baby at home. You have got your own bed, your own sheets, and you are in familiar surroundings ; there is no hospital atmosphere and you can see more of your

husband and your friends. But there are several disadvantages :—

1. You may be living in a small house or flat and not have a suitable room.

2. There will be more work to do in the house—more meals to carry up, extra hot water, more washing, etc., and you may find it difficult to get extra help. You will need somebody to do the housework for at least 2–3 weeks. If you have servants, they must be approached tactfully, though you will usually find that a word of praise and a confidential talk about the coming happy event will enlist their interest and sympathy.

3. It is difficult not to worry about the house, perhaps about your husband or your other children ; and when you are having a baby you want peace and quiet and freedom from the minor worries of life. These you are more likely to get in a hospital or nursing home.

If you want to have the baby at home, you must decide who is to look after you—your doctor and a nurse, your doctor together with the district midwife, or a midwife alone. This is very much a question of money. Have your family doctor if you are confident in him, if you know he has had a lot of experience in bringing babies into the world, if you know he likes the work and is patient and conscientious. Some general practitioners dislike midwifery since it is apt to take up so much of their time ; some have not had the necessary experience ; and some show little interest in mother or baby once the delivery is safely over. If this is the case it is much better to choose another doctor to look after you, particularly if this is a first baby, for there is nothing more expensive in the long run than poor medical service. Many modern young women, regarding midwifery as a subject demanding special knowledge and experience, choose an obstetric specialist to look after them, and in many cases this is the wisest plan. If you have just gone to live in a city and you don't know of any doctor, find out the name of the specialist who is in charge of the maternity work at the local hospital and write to him. He will probably be able to put you in touch with a good doctor.

A doctor's fees vary widely, depending on his knowledge

and experience and whether you live in the country or in town; but most doctors will adjust their fees to suit your pocket. It is best to be frank; tell him just what you can afford, and he will help you to get the best value for your money. If you decide to have a doctor, you will also have to engage a nurse; and this is best left to his discretion, for it is a great advantage for him to work with somebody he knows well, and friends are not always good judges of nurses.

You may decide to have your district midwife; and if you have to be careful with your money this is probably the cheapest way to have your baby, and it is quite a good plan. The standard of work of midwives in England is extremely high; they are careful and thorough, and if they have the slightest doubt about you they are bound by law to call in a doctor or send you to hospital. They will go with you to the antenatal clinic to see the doctor, they will do the actual delivery, and they will look after you for the first 10 days or fortnight after the baby is born; and you will make a firm friend, someone you can always approach about the baby should you need advice on minor troubles.

If you have the baby at home, you will need an obstetric drum and a few extras such as disinfectants—your nurse will give you a list. You buy an obstetric drum, with everything sterile and ready for use, for about 25*s.* or 30*s.* from one of the leading chemists; or you can buy a smaller one for about 8*s.* 6*d.* from the antenatal clinic. If you can't afford as much as that, your midwife can arrange to get it free from the local authority.

Hospital

Confinement at a hospital may be wiser if this is your first baby, especially if your measurements are small and the doctor thinks there may be some difficulty in delivery. They have a specially trained staff to deal with every emergency, strict asepsis is possible and the anæsthetic arrangements are simpler. You can go either to the maternity ward of a general hospital or to a special maternity hospital, and then the fees are very reasonable; or if you would like a little more privacy and you can afford rather higher fees, to a private

room in a maternity hospital. The medical care in each case is exactly the same, but some hospitals have a rule that you can only be looked after by a member of their staff, which means that you may not be able to have your own doctor. Confinement at a hospital is by far the best plan if you haven't a suitable room at home, if there are several other children, or if you live in a noisy street; for you really *do* need peace and quiet and plenty of sleep after having a baby.

If you go to hospital, they will provide everything for you —you do not have to buy an obstetric drum. You will need one or two nightdresses and a bed-jacket marked with your name, clothes for the baby, and books or sewing to pass away the time.

Nursing Home

Nursing homes have two great advantages—quiet and privacy—but they are expensive, although you can cut down the expense a good deal by having the first two weeks at the nursing home and the second two weeks at your own home with a nurse. She can either live with you or call in every day. Also you will need a friend to give you a hand with the housework for a couple of weeks. As time goes by, probably most women will be confined at home or at a hospital, for the fees are more in keeping with maternity work. After all, 97 per cent. of women have a perfectly straightforward time, and it does seem rather absurd to pay very high fees for what is usually quite a simple affair.

There has been a great deal of talk recently about anæsthetics for all mothers. Your best plan is to leave this entirely to your doctor or nurse—they will see to it that you have what is safest and best for you and the baby.

It is impossible to give you exact fees for these various plans for your confinement—they vary so much from place to place. Talk it over with your doctor or nurse and be quite frank. If you are insured, you can claim maternity benefit; but in any case put aside a little money every week—you will need it when the baby is born. Wherever you decide to have your baby, don't skimp things and don't hurry back to normal life too quickly, especially after a first baby. It

simply does not pay. You will avoid a lot of the troubles so common after pregnancy if you'll allow yourself plenty of time to rest during your confinement.

If you are working, tell your employer the news quite soon, for if you don't it may no longer be news. Arrangements will have to be made if you want to keep your job, and no one likes to be forced to make changes at the last moment. Most employers take the news pretty quietly nowadays, and many of the good ones will keep your job open for you and allow you 4–6 weeks off duty on full or half pay. The time *after* the baby is born is the most important for you, so it is best to continue working up to the last day and have your month or six weeks' rest afterwards.

This leads to the important question . Can you run a job *and* a baby ? The answer surely is No, not unless you have great vitality. Either the baby or the job will suffer. The fun you get out of a baby depends on just how much you are free to take care of him yourself. Sometimes the mother cannot help herself—she *has* to work, and the baby has to be left to someone else's care ; but sometimes the mother will deliberately sacrifice her child to her career. Experience shows that this is usually a mistake.

What Your Doctor will want to do

1. He will ask you what illnesses you have had in the past. Pregnancy is the best test of good health. If you have any weakness, any part of you that is not quite sound, pregnancy will surely bring it to light.

2. If you have had a baby before, he will want to know all the details. Was pregnancy perfectly straightforward or not ? Was labour easy or difficult ? How long did it last ? Had instruments to be used ? Was there any tear that needed stitches ? How soon did you recover from the effects of the confinement ? What has your health been like since ? What was the baby's birth-weight ? Was the baby breast-fed or artificially fed ? If you did not breast-feed him, what was the difficulty ?

3. He will ask for the date of your last period and from that calculate the expected date of arrival of the new baby. Has this pregnancy been quite normal so far ?

4. He will expect to examine you thoroughly several times during the pregnancy. He will :—

(*a*) Take your temperature ;
(*b*) Ask about your weight ;
(*c*) Examine your heart and lungs thoroughly ;
(*d*) Look at your teeth and make sure that you get proper dental care during your pregnancy ;
(*e*) Take your blood pressure ;
(*f*) Ask for a specimen of your urine to test ;
(*g*) Examine your abdomen, take your measurements, feel the position of the baby and listen to his heart ;
(*h*) Make an internal examination to decide how much room there will be for the baby when he is being born. As a rule this is only necessary once, or perhaps twice, during pregnancy.

Your doctor will be seeing you several times during pregnancy, so he will probably not do all this examination at one time. None of it will hurt, though some of it may be uncomfortable for a moment, but even that is soon over. Only by *complete* examination can your doctor keep you perfectly fit.

5. He will tell you about your diet, what to do about exercise, sleep, fresh air, and so forth.

6. He will want to know what preparations you have made for the actual confinement, and if you have all the baby's clothes ready. You should have a suitcase packed and everything waiting at least 2 weeks in advance if you are going to have the baby at a hospital or nursing home.

7. He will examine the breasts carefully and see that they are ready for breast-feeding.

Allow yourself plenty of time for your visits to the doctor or to the antenatal clinic. Don't be in a hurry, especially with a first visit. Ask as many questions as you like, take a few notes in writing, make sure you know exactly what your doctor wants you to do, and then do it. Tell him about any aches, pains or queer feelings you may have ; don't keep your fears to yourself. Don't worry if he finds something that is not quite right—that is his job ; his aim is to find the *earliest* sign of trouble and to treat it promptly.

Antenatal Treatment

First as to your diet. The life of a baby begins 9 months before he is born, so from the moment you know you are pregnant make sure that you have plenty of *fresh* food—milk, butter, eggs, cheese, fresh fish, fruits, salads and vegetables ; for the younger the unborn baby, the more far-reaching are the consequences of a bad diet, or an unreasonable mode of life. You cannot build a baby out of bad materials. If you like milk and it suits you, take a pint a day ; but if it dis-

CHART I

Average Weight and Height of Women at Different Ages
(In Stones and Pounds)

	19	20	21–22	23–24	25–29	30–34	35–39	40–45
4 ft. 10 in.	7·0	7·4	7·6	7·12	8·1	8·4	8·7	8·11
4 ft. 11 in.	7·5	7·7	7·11	8·0	8·3	8·6	8·9	8·13
5 ft. 0 in.	7·11	8·0	8·1	8·3	8·5	8·8	8·11	9·1
5 ft. 1 in.	8·1	8·3	8·4	8·6	8·7	8·10	8·13	9·3
5 ft. 2 in.	8·4	8·6	8·7	8·8	8·9	8·12	9·1	9·6
5 ft. 3 in.	8·8	8·9	8·10	8·11	8·12	9·1	9·4	9·9
5 ft. 4 in.	8·11	8·12	8·13	9·0	9·3	9·4	9·7	9·12
5 ft. 5 in.	9·0	9·1	9·2	9·3	9·5	9·8	9·12	10·2
5 ft. 6 in.	9·3	9·4	9·5	9·7	9·9	9·12	10·2	10·6
5 ft. 7 in.	9·5	9·7	9·9	9·11	9·13	10·2	10·6	10·10
5 ft. 8 in.	9·9	9·11	9·13	10·1	10·3	10·6	10·10	10·11
5 ft. 9 in.	9·12	10·0	10·2	10·5	10·7	10·10	11·0	11·4
5 ft. 10 in.	10·1	10·3	10·5	10·8	10·11	11·0	11·3	11·7
5 ft. 11 in.	10·5	10·7	10·9	10·11	11·0	11·3	11·6	11·10
6 ft. 0 in.	10·10	10·12	11·0	11·2	11·4	11·7	11·10	11·13

agrees with you, don't force yourself to take it. Meat should be eaten sparingly—in fact, it is best to go on to what may be described as a three-quarter vegetarian diet and eat meat only once a day. Liver is very good for you. Don't attempt to " eat enough for two " : there is no sense in it. Just take reasonable meals and see that you do not put on too much weight. In the 40 weeks of pregnancy you should gain about 21 lb. This works out at an average of 1 lb. every fortnight, but actually you will probably gain rather less during the early weeks of pregnancy, rather more towards the end. You should not put on more than 25 lb. at the

most, and if you were rather overweight at the beginning of pregnancy your gain should be rather less than that. Chart I tells you what you should weigh for your height and age, and from this table you can easily make sure you are not gaining weight too fast.

Keeping reasonably slim during pregnancy is not only good for your figure, it prevents many of the serious disorders which doctors group together under the name of " toxæmias of pregnancy." This, you must realise, is quite different from the bad practice—incidentally always unsuccessful—of excessive slimming in the hopes of having a small baby and an easy time. If you eat with discretion, both you and your baby will benefit by it. You may find you develop odd cravings for food at all hours of the day or night or for queer things to eat. Resist them if you can. The idea that the baby will grow into a discontented child if you don't indulge in these morbid cravings is an old wives' tale. Keep to three meals a day with nothing in between. Just as a building needs good foundations, so a baby needs good materials with which to build up body and brain : so see that your diet is natural and straightforward. " Moderation in all things " should be your motto.

As regards drinks, the first essential is to have plenty of water : four or five glasses a day are not too much. It is a good plan to start off the day with a glassful and to take another when you go to bed, or, if you prefer it, you can take fruit juice instead. Strong tea should be avoided : frequent cups of tea with cake or biscuits are often the cause of heartburn and indigestion. Alcohol is best avoided or at least taken in the strictest moderation. A glass of your favourite drink now and again, if you feel like it, will certainly do you no harm : it is the *regular* use of alcohol that is bad.

Live an open-air life as much as you can. If you are lucky enough to be down in the country in the summer time, you can sit in the shade of the garden and talk and get on with the baby's clothes ; while in the winter you can go out for a good walk. Pregnancy is no time for invalidism, so buy yourself a pair of flat-heeled brogues and a macintosh and go out in all weathers. If you are living in town you should still make

a point of going out each day. Ask your doctor what exercise you may take. Some women can swim and bathe and play golf and tennis till the last month of pregnancy; others might have a miscarriage if they did as much. Exercise in the open air keeps you in glowing health; it is the best remedy for sleeplessness, the best tonic to the nervous system. Don't try to harden yourself; it is quite possible to have too much sun and air and exercise. Excessive exercise does *not* improve health.

You will need plenty of sleep at night and rest during the day if you are to feel at your best. Lie down on your bed and relax completely, if only for a few minutes morning and afternoon; sitting in an easy chair does not relax you sufficiently to be of much value. An occasional day in bed will do you good, but don't overdo this. Some women take so much rest and sleep that they become almost semi-invalids. This is a mistake; indeed, a light job during pregnancy is often an advantage. You will also need amusement, for you will get very tired from time to time, particularly during the last 6 weeks, and time will hang heavy on your hands. Books, wireless, the quiet companionship of friends, an occasional visit to theatre or cinema or a dinner party will refresh your mind.

Antenatal Exercises

These are of very great advantage. Many hospitals have a printed slip describing how they are done: or you will find suitable ones illustrated in the various women's journals—*Good Housekeeping*, *Vogue*, *Woman*, etc. Some hospitals run antenatal classes for mothers, where you can go and have these exercises shown to you.

Antenatal Preparation of the Breasts

The antenatal preparation of the breasts is most important, so your doctor or midwife will expect to examine both breasts carefully, particularly if you have had a baby before and there is a history of trouble with the breast previously. If all is well at the first examination—which is usually done at the 3rd or 4th month—nothing need be done till the 8th month, when you should learn a few simple facts about breast

massage and expression: but if you are found to have depressed or inverted nipples, these will require treatment at once. Small glass nipple shields * should be worn by day over the nipple area from about the 5th to the 9th month: these fit quite comfortably inside a brassière, and are not irksome to wear. In a few months improvement is often spectacular, and this simple device alone may make it possible for you to breast-feed your baby without any difficulty.

Many of the troubles in the early days of breast-feeding arise from blockage in the ducts. Milk comes in suddenly on the 3rd or 4th day, and the breasts become hard and distended if the flow is in any way obstructed. If the distension is only mild, putting the baby to the breast may release the flow; but if the distension is great—*i.e.*, the obstruction to the ducts is severe—it may only make matters worse, for the baby will hurt his mother unbearably. He cannot take a good mouthful of breast tissue into his mouth when he is sucking, which is the normal state of affairs; he can only seize the nipple. Before long painful cracks and fissures appear, for he soon wears out the delicate skin with his chewing. Since many breast-feeding failures arise in this way, it is important that you should learn how to massage the breasts and express your own milk: for if you can do this in the first few days after the baby is born, you can prevent engorgement and pain.

The technique is simple enough. Moisten the palms and fingers of both hands with a little oil. Encircle the breast with both hands, thumbs close together in front and fingers behind, and squeeze down several times steadily and firmly towards the nipple: then holding the left breast firmly in the left hand (and *vice versa*) express milk from the ducts by rhythmic compression deeply outside the darker coloured skin of the nipple with the thumb and forefinger. (Compressing the nipple itself is useless and often painful.) Little drops of milk will appear on the surface of the nipple if the ducts are patent. This procedure should be quite painless. If the milk ducts are blocked by tiny crusts, these can usually

* These glass nipple shields are obtainable from S. Maw & Sons, Ltd., Aldersgate House, Cromer Road, New Barnet.

be removed with a soft scrubbing brush and plenty of soap and hot water : occasionally, if they are very adherent, they may need hot compresses of gauze or lint soaked in perchloride of mercury (1 in 4,000) once or twice a day.

Keeping One's Looks despite Motherhood

Plenty of women with babies are interested in their own lives and take a pride in their looks. Others do not : they only ask to stay at home and mind the baby. It is for the former that this section is written, for there is no reason why having a baby should play havoc with a woman's face and figure.

First of all, it is very important not to gain too much weight during pregnancy (see p. 8–9). A gain of about 21–25 lb. is plenty ; if you gain more the skin will become stretched, and when the baby is born you will be left with many cracks in the skin of the abdominal wall, the breasts and the hips. See that your diet is right—plenty of fresh milk, butter, eggs, fresh fruits, salads and vegetables—and eat with discretion. All the normal skin tendencies are exaggerated during pregnancy, so if you needed astringent lotions before, you will need them even more now. Follow your daily bath with a cold shower or a cold sponge ; this tones up your skin and muscles and keeps you fit. Sun baths are excellent, so if you are one of the lucky people who live in the country and have a garden of your own, or if you are staying at the seaside, put on a backless bathing costume and lie about in the sun now and then. Don't choose the middle of the day when the sun is at its hottest, but rather the cooler hours soon after breakfast. Begin slowly and be careful not to overdo it.

You will want to look as trim and smart as you can during pregnancy. Many firms now specialise in maternity frocks, or, if you make your clothes yourself, you will find excellent patterns in the various women's journals. Short smocks and loose jackets are becoming, with a simple wrap-over skirt. You will probably wear a brassière and belt, or just a brassière. Maternity corsets are only needed by those women who have weak abdominal walls.

As soon as the abdomen begins to swell, massage the skin

every morning after your bath, but with a little almond oil. Massage the breasts as well, taking especial care always to massage them *upwards*, otherwise you may stretch the ligaments and tissues that hold them firmly in position. Exercise in the open air—walking, swimming, tennis, golf—will keep your figure trim. Formal gymnastic exercises are of less importance, for there is not much fun in doing them unless possibly you do them with a gramophone and dance records.

See your dentist as soon as you know you are going to have a baby. If a tooth is decayed it will get worse during pregnancy; when the baby is born you may suddenly find you need a lot of dental treatment. Proper care during the early months of pregnancy, together with small doses of calcium and cod liver oil, will prevent this.

Have a shampoo and set 10–14 days before the baby is due, so that you can be looking your best when he arrives, and you want to show him off proudly to your friends and relatives.

Minor Disabilities

Most of the minor disabilities of pregnancy disappear if you will but live a reasonable life. Pay due attention to diet, exercise, fresh air and sunshine, sleep, recreation—as outlined above—and you will probably have no troubles. Morning sickness, however, can at times be a nuisance. The best thing to do is to stay quietly in bed in the morning and sip weak China tea with sugar and a slice of lemon. Usually the less breakfast the better. No medicines are of much use, though some women find milk of magnesia or a mild saline helpful. It is best to cut down fat in your diet and to eat very plain, simple food for a time.

Some women are troubled by constipation during pregnancy: if they are in the habit of taking purgatives they find they need more. Provided that you have the right kind of diet and plenty of exercise you should have an action regularly once a day, but if you have any difficulty try a tumbler of hot water night and morning and take a little extra fresh or stewed fruit. If you are still not right, try a

small dose of liquid paraffin at night or one of the new preparations containing paraffin.

Heartburn is usually due to over-acidity, so keep to the simplest of food, restrict the amount of fat that you eat, and don't hurry over meals. A soda-mint tablet or a little bicarbonate of soda will usually relieve it.

Lack of air, lack of exercise, late nights, worry and depression are the common causes of insomnia. Your windows should be wide open at night, even in winter, for you cannot sleep well in a stuffy, airless room. Console yourself, if you can, with the thought that depression is the common lot of mankind—the higher you swing, the lower you must sometimes fall—so put away your troubles till the morning, have a leisurely warm bath, go to bed with the latest novel or the weekly illustrated papers, and see what that will do. If in spite of this you wake up in the night, don't lie awake in the dark hoping against hope to sleep : you will only work yourself up to a pitch where sleep is impossible. Turn on the light, make yourself comfortable and settle down for a good read. A Thermos at your bedside with some hot drink is most helpful. Don't get into the habit of taking tablets to make your sleep : you may find it difficult to give them up.

If you find you are liable to get cramp in the legs, or you are getting tired and pale and easily breathless, you should see your doctor. For the one you may need calcium, for the other iron : your doctor will prescribe the most suitable preparation for you.

Postnatal Treatment

You will probably ask : Is this really necessary ? The answer is, Yes : for only then can your doctor be quite certain that everything inside is back to normal. It is usually done 6–8 weeks after the birth of the baby ; it only takes a few minutes and it will not hurt—nothing beyond mild discomfort for a moment. Many disabilities can be prevented by proper postnatal treatment, so it is always very much worth while. Lassitude and weariness, for example, due to anæmia, are still very common in women living a city life : yet if diagnosed and treated promptly with iron in proper dosage, both disappear in a few weeks.

CHAPTER II

FOR HUSBANDS AND FATHERS

At no time in her life does your wife need your love and understanding more than when she is pregnant. Carrying a baby through 9 months is often hard work, and few can do prolonged hard work without getting cross and irritable at times ; so make allowances for your wife's ups and downs and help her by sharing in the work and fun of getting ready for the baby. Sometimes she may feel so well that she will do too much and get tired all of a sudden : it is your duty to watch her and, if necessary, to apply the brake gently to her activities. A woman at this time often undergoes profound changes in temperament. She may show violent likes or dislikes for people ; she may lapse into sudden bouts of depression ending in floods of tears ; she may indulge in all sorts of queer fancies and ideas ; she may be impulsive, unreasonable and full of vague fears. Reason and argument are useless at such a time, for her difficulties are emotional and can never be solved by the cold light of logic. It is best to humour her whims and get her out of her mood with extra love and sympathy. A bunch of flowers, a small present, a quiet dinner for two, tickets for a theatre or cinema—any of these may make her happy. The last three months of pregnancy are the hardest. Time hangs heavy, your wife's first wave of high spirits is on the ebb, the effort of carrying about a heavy baby wearies her, and she feels tired and dispirited. Chairs are less comfortable, bed is not so easy and it is a relief to her to have a good cry.

To look nice is a deep-rooted feminine instinct, an instinct which all men should cherish since it gives an added beauty to life. Now most women of charm and character are sensitive about the change in their figure. They usually take pride in their personal appearance and they now feel embarrassed and awkward. Loss of appearance to a woman is much the same as loss of dignity to a man ; pregnancy, then,

is a time when you should show tact and sympathy. See that she is having the right sort of diet and proper exercise, see that she is keeping reasonably slim, for there is no reason why a woman should put on more than a stone and a half during her pregnancy.

Don't let friends and relatives upset your wife with stories about babies born with birthmarks and so on. These are entirely untrue ; the chances of her having a baby that is not absolutely normal are extremely remote.

Your wife will have to see the doctor from time to time during her pregnancy. Go with her on these visits if you can spare the time ; if not, at least be interested in hearing what he has said and see that your wife carries out his advice.

Marital Relationships

Any decent and reasonable husband will respect his wife's natural feelings during pregnancy. At such a time women often experience emotional changes which are strange and inexplicable, even to themselves. Some seem to feel no natural desire for their husbands, and give way only in a sense of duty ; while others appear to have a genuine need. In most cases there is no need to advise against intercourse provided (1) that the desire is *mutual*, and (2) that the husband exercises great gentleness : but with some women intercourse, especially if practised during the first 3 months and perhaps rather too frequently, is liable to bring on a miscarriage, and although this may have little physical or emotional effect on some women, others drift downhill into months of ill-health, or lapse into surgical complications that are anything but trivial. Miscarriages are certainly not events to be taken light-heartedly, so if there is the slightest trace of bleeding after intercourse, it is wise to give up intercourse entirely until the 4th month, for from then onwards the risks of a miscarriage are much less.

In the last 3 months of pregnancy the womb is high in the abdomen and the physical act is awkward and distasteful to a woman. Most women say that they would be glad to be spared at such a time. There are also good *medical* reasons why intercourse should be forbidden after the 28th week.

After the birth of the baby many women have no wish for

their husbands, particularly so if they are breast-feeding. A husband not unnaturally begins to worry and fear that this change of feeling may be permanent ; but this is not so —it is only a sign that his wife is emotionally exhausted, that she needs more time before her mind and body have settled down to their former equilibrium. She is not to be rushed. Every wife appreciates a husband who shows delicacy and forbearance, who sympathises with her changes of mood, who is content to bide his time. Sometimes it is urged that a man's health will suffer if he is denied his wife for many months, but there is no evidence that this is so— on the contrary, he will be all the better for a little self-control. There are however cases in which both husband and wife wish to resume intercourse without waiting a long time. In these cases there is no medical reason against resumption in 2 months if the delivery was quite normal, or in 3 months if some repair was needed after delivery.

When the baby is coming

When your wife goes into labour, keep calm and remember that waiting a long time does not necessarily mean that there are complications, for even in normal cases the length of labour varies enormously. The less a doctor interferes with Nature by hurrying things up the better. Many doctors, against their better judgment, are tempted to use instruments, when neither the mother nor the relatives can bear any more delay ; but instruments increase the risks of labour and often with a little more patience on the part of all the baby would be born quite naturally. The right thing to do is to see your wife from time to time, to reassure her that all is well and she is doing splendidly, and to leave the rest to your doctor. You can help him at this time by keeping anxious relatives away from the house ; a 'phone call every now and then, telling them of the progress of affairs, will comfort them and soothe their natural anxiety. In other words, you'll have to act like an Information Bureau.

After the baby is born

When the baby has arrived it is your proud duty to 'phone up the relatives and tell them that mother and child are

doing well; to send the announcement of the birth to the papers, if you wish it; and to notify the local Medical Officer of Health within 36 hours of the birth of the baby.

You have also to notify the birth of the baby to the Registrar of Births, Marriages and Deaths. In England this must be done by law within 42 days of birth, in Scotland within 21 days, and it can be done by either the father or the mother. Notification is often done by the doctor or nurse.

See that your wife has a quiet and restful time after the baby is born. Visitors can be a perfect nuisance: they stay so long and talk so much that when they are gone you may go upstairs to find your wife tired out and in floods of tears. Don't let her sacrifice her health by going back to work too soon, and don't let her get overtired, or breast-feeding may fail simply because she is trying to do too much. She may need extra help in the house for a time or, if the confinement has been difficult, a few weeks at the seaside.

When the baby is 2–3 months old, arrange to have him christened. This is one of the finest services of the Church.

Sometimes a father is quite uninterested in the baby while he's very young. "Why, they are all alike!" he will say: but they're not really. Every baby is very much of an individual—each one needs different handling, no two are really alike. Babies are meant to be enjoyed: yet to so many parents they are a constant source of worry and fear. Will his food suit him? Is he too hot or too cold? Does that crying mean he's ill? Now there are two sorts of babies—fat, contented, placid babies who never worry if a meal comes a bit late, who are not bothered by loud sounds, by being picked up and dangled at all hours, by being bathed and dressed; these we call good babies. Then there's the other sort—thin, worried, nervy babies, who yell with fury if their meals don't arrive at the right time, who jump violently if a door bangs, who fight and struggle and scream and arch themselves backwards in a paddy when they are being bathed and dressed; these we call bad babies. But what I want to emphasise is this—*both* sorts of babies are normal, although the first doesn't give you a moment's trouble, while the second is just a bag of nerves. And what is more, you must learn to enjoy the second sort just as much as the first,

for the baby cannot help it—it is just a matter of temperament. You have to know your baby, to be tactful with him as with an awkward stranger, you have to humour him, to fit in with his needs. Don't take things too much to heart. Go easy and let time come to your rescue. Laugh with him and enjoy him and be patient, and he'll learn soon enough: but once let yourself get tired and nervy and dispirited and you'll find that you start to snap and scold and then farewell to the baby's love and confidence in you. He's trying his best, though may be it seems a pretty poor best: so give him time and let him go his own way and grow at his own rate.

Your wife probably feels a bit shy and awkward with her first baby, but she wants to run the baby herself! She is bound to make mistakes, of course; who wouldn't? She has a lot to learn. It is up to you to give her every encouragement, to support her through thick and thin; and if you think things could be better done some other way, to put it tactfully. Friends and relatives can be very helpful, but they can be a curse, especially grandmothers and aunts who want to have a hand in the baby's upbringing. They will butt in with all sorts of remarks—that the baby is too cold, that his feeds are all wrong, and so on: and then, to cap it all, they will say "I've brought up five so I should know," until your wife is furious and at her wits end. Don't stand any nonsense: back up your wife at all times, *even if she's wrong*, and tell your relatives that she's making a grand job of it, that you're proud of her and you won't have her upset. If there's any doubt what to do, there's always the doctor or the Welfare Centre to give you advice.

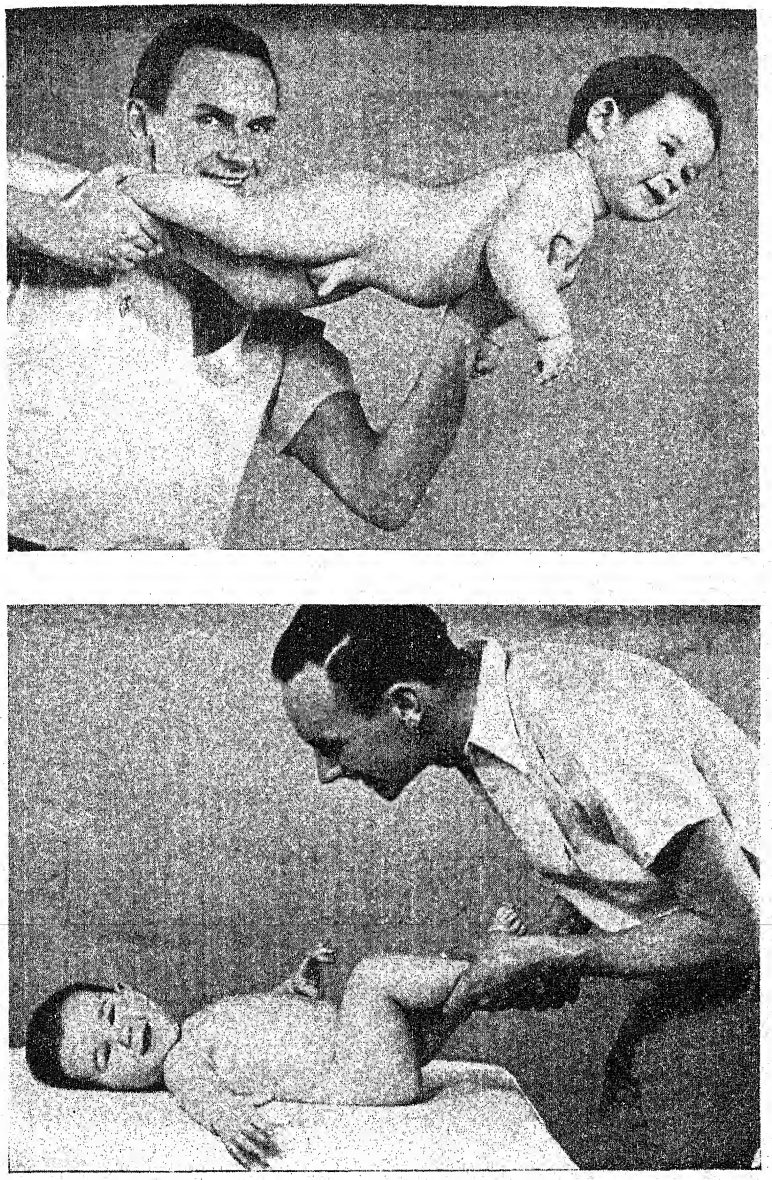
At this point you may say: "But babies are a woman's business. I've got all my work cut out to make a living: the baby I must leave to my wife." But this shouldn't be so: a baby is a *joint concern*, and every wife appreciates a husband who shares in the upbringing of her child. You may feel shy and awkward when you are confronted by a baby in long clothes and not know how to hold him properly; you may feel rather on your dignity, perhaps afraid of looking a fool. But don't let this stand in your way. Hold the baby firmly and talk to him like an intelligent being—which of

course he is. Give a hand with his bath from time to time —all fathers I should say like seeing children in their baths —sit him astride your knee and joggle him up and down gently till he gurgles with laughter, play about with him on the hearth-rug, take him on your knee and give him his evening bottle. Your wife will be quick to appreciate your help and the baby will love it.

Exercises are good for babies and most babies enjoy them, for they are tough little creatures and they like using their muscles. There are several booklets on the market that deal with exercises for babies. This is a job you will enjoy.

Sometimes a mother is over-possessive. Perhaps she has waited years for this baby and now she wants him all to herself. She may even be jealous of you, especially if it's a small daughter and you dote on her and she gets on very well with you. Keep your sense of humour and be patient. Things aren't what they were—they never are once you've got a baby in the house—and it doesn't do much good to sigh for the good old days when you were everything to your wife. You must of course stand up for your rights—a baby is a dual concern—but do it tactfully. Take your wife out a bit more and show her that she comes first. Don't let her spend too much time on the baby. After all, she has her own life to live and she's your wife, and the baby has just got to fit in with the general scheme of things. It isn't good for him to be pampered and over-mothered—it will only spoil him.

At no time of life is diet so important as during pregnancy, during breast-feeding and for the first year or two of childhood : so make every effort to have a garden of your own, or an allotment, and grow your own salads and vegetables. And if you can arrange to buy milk, butter and eggs absolutely fresh from a local farm, so much the better. There is a world of difference between the fresh food at your door and the stuff bought in the shops. New babies can only be made properly from fresh materials, so read the chapters on feeding (Chapters IX, X) with care, and do your best to give your wife and baby the freshest food you can afford. Running your own garden and growing your own salads and vegetables is fun, it is healthy exercise for you, it gives you an



A Proud Father Exercising His Son

[To face p. 20.

MAKING FRIENDS WITH THE SEA

interesting hobby, and you will be quick to see how the health of your family improves. And incidentally it will save you pounds in doctors' and dentists' bills.

Planning for the Future

It is a good plan at this time to consider how you can safeguard your child's future. One excellent way is by taking out a School Fees or Educational Endowment Assurance. In a policy of this sort the insurance companies guarantee the payment of all the child's school fees from the age of, say, 14 to 18, whether the father is alive or not. The amount you pay every year depends, of course, on the type of school you have in mind for your child and on the number of years of education you think necessary. You can claim rebate of income tax on these premiums.

Another scheme is to provide for the child's future by means of a policy known as a Child's Deferred Assurance. Your annual payment for a policy of this sort can be quite small, no medical examination is required at any time, and when the child reaches the age of 21 you have an excellent life insurance policy to hand over to him. For example, according to one company's terms, if you can afford to pay £5 a year, your child at 21, by continuing the annual payments, will have a whole life assurance policy worth £502; if he decides to stop further payments he will have a fully paid-up policy of £247, or you can surrender the policy when he is 21 and present him with the lump sum of £130. If you wish to surrender the policy before he is 21, or if the worst should happen and the child not live to that age, the insurance companies will guarantee immediate payments in cash. By paying a small extra premium you can provide that in the event of your death the payment of premiums shall cease until the child is 21, without affecting the benefits he will receive at that age.

There are no short cuts in looking after a baby: what with feeding and cooking and washing, it is a whole-time job for any woman. You may have your 40-hour week, but your wife is never free: she has hardly a moment she can call her own, especially if there are two or three children. It is very different for you: *you* can always manage to get out of the

house, you can always go round to see a friend—all very well but hardly fair on your wife. Read this book together, then, and talk it over with your wife. Run the baby together, see how he shapes, think what you're going to do with him later on in life, and you and your wife will enjoy the baby and get some of the greatest pleasure the world has to offer you.

CHAPTER III

THE BABY'S CLOTHES

THE main purpose of clothes is to keep a baby warm. They should be light and airy and allow for complete freedom of movement; they should be easy to put on and take off; they should be simple to wash and iron, and inexpensive, for the baby will grow while the clothes will not. Don't start by buying a lot of things for the baby, for you will probably get plenty of presents from friends and relations, and it is better to save your money for the clothes the baby will need when he is 6 months or a year old. Until then his needs are really quite simple.

You will want to buy :—

Three knitted silk and wool vests; the double-breasted ones are the most practical.

Three dozen napkins: Harrington's squares are the best, but if you can't afford them, buy 2 dozen muslin napkins, and 1 dozen napkins made of Turkish towelling.

Three linen or cotton frocks.

Three Chilprufe nightgowns.

A couple of light fleecy shawls are most useful, so is a sleeping bag of soft blanket wool with armholes for the baby. If you can afford it, buy two shawls, a light weight and a heavy weight.

Woolly suits will probably be given you, or you can knit them yourself; and anyhow they will only be wanted if the baby is born in winter. A small boy always looks nice in a little woollen cardigan which buttons up the front, and a tiny pair of woollen shorts worn over his napkin. This makes a neat rigout and small boys look sturdy and compact and easy to handle. I have known several fathers who viewed with horror the prospect of handling a baby in long clothes, yet be extremely proud and pleased to

hold their son when dressed more reasonably. Small girls I like best in linen smocks with knickers made of the same material. There is no point whatever in a baby wearing long clothes—indeed they are quite an unnecessary expense. Put your baby in short clothes from the very first, for he will get far more exercise kicking about with his legs, far more light and air to the body, far more freedom.

Woollen boots are not usually necessary unless the weather is raw and cold and the baby apt to get cold feet. A woolly bonnet is needed only if the wind is keen and biting. A flannel binder is not necessary once the cord is off. Veils are relics of the days when it was thought dangerous for a baby to breathe cold air : they should never be used.

I am well aware that the list of baby clothes given above is well below the minimum requirements given in other books. For example, the Association of Maternity and Child Welfare Centres recommends :

4 warm vests—Viyella, Chilprufe, Wolsey, etc. ; or 4 vests knitted with the finest quality baby wool.
3 pairs of knitted bootees.
5 day or night gowns.
3 knitted matinee coats.
2 shawls.
2 bonnets.
3 pairs of gloves.
2 dozen napkins of Turkish towelling.
2 dozen muslin napkins.

But it seems to me that this must depend very much on the date of the baby's birth. For example, supposing he is born in May or June, he will not want bonnets and gloves and bootees ; and it will be wasteful to buy knitted woollen vests, for he will have grown out of them long before the winter comes and he really needs them. It is much better to buy less at the start and save your money for new clothes when the baby is getting older and growing at a great rate.

The amount of clothing a baby should wear depends entirely on the temperature of the air and the general condition of the child : a strong, healthy baby needing less

clothes, a thin, underweight baby more. It does *not* depend on the season. "Ne'er cast a clout till May is out" is thoroughly bad advice for those who deal with babies. Dress your baby according to the weather; the fewer clothes the better, provided that the baby keeps perfectly warm, and you can always tell that by feeling his chest. It does not matter if his face and hands are cold. Take every advantage of halcyon days in spring and autumn to dress him in thin, light clothes, and if, as happens only too frequently in this foggy island, there is a cold snap in June or July, dress him as you would for November. In hot summer weather you will find that the baby needs no more than a napkin, a silk and wool vest, and a cotton frock; a napkin and a cotton frock may be enough. A sun-suit with criss-cross shoulder straps, made of linen or some cellular material such as Aertex—wool is too hot and stuffy—is most useful: in it the baby has plenty of freedom to crawl about in comfort. Many babies, perhaps I might even say most babies, wear too many clothes in summer: they get fractious and irritable, their appetite becomes capricious, and they fail to do well. Summer weather is made responsible for many evils for which it is not to blame; most babies will thrive in hot weather if they are reasonably clothed.

For the baby who sits down unexpectedly often waterproof rompers are a great boon. They will save you endless washing and he can play about happily without ruining good clothes.

A few words now on napkins. They can be put on in two ways, in the traditional English triangular fashion with one pin holding everything together, or in the American way, with two pins at the side. It doesn't matter which way you do it. I prefer to use both methods together, putting on the thin napkin next to the baby in the triangular fashion and then wrapping the outer one round him loosely like a skirt, and fastening with a couple of stout safety pins on either side. Two napkins are usually necessary at first, but you may find you can do without one if you put a pad of cotton wool inside the napkin tight against the baby. (Nowadays you can buy paper squares and napkins for the same purpose.) The washing of napkins is described on p. 140.

As the baby grows up and begins to crawl you will need cotton rompers, or crawlers, and as he reaches the age of one, overalls cut like a miniature boiler suit.

Washing Woollies

There are four main rules for washing woollies if you want them to look nice, keep their shape and last a long time :—

1. Use soap flakes and plenty of hot water, and rinse them thoroughly.
2. Don't rub woollies—squeeze them and rinse them twice in clean water so as to avoid matting and shrinking.
3. Dry woollies *at once*, out of doors if possible. Leaving them about wet tends to shrink them.
4. Lay woollies out flat to dry. Some baby wool stretches if it is hung up wet on a clothes line.

In England a mother usually takes a baby on her lap when she wants to change him or put on his clothes. This isn't always easy if the baby happens to be a born wriggler. Abroad they do things in different fashion : they push a table or small chest of drawers against the wall, cover it with a double thickness of blanket, and change the baby there—an excellent method, and one that appeals to all fathers who volunteer to give a helping hand.

CHAPTER IV

THE NURSERY

BABIES should live most of their days in the open air, and only be brought indoors when it is very cold or foggy or when it is raining. If you have a room to spare for your baby, somewhere that you can turn into a nursery, so much the better: but a nursery, though very convenient when a baby is growing up and crawling about and playing with toys, is *not* a necessity. It may be quite impossible for you to give him a room of his own. You may be living in a 2–3-room flat, perhaps in a small house in a dark, narrow street, perhaps in a tiny cottage, and you simply haven't got the space; but you can still do a great deal for him. In good weather you can get him out in his pram on an open air balcony, perhaps on a fire escape, or in a back garden; while in bad weather you can keep him in his pram in the living room or in your bedroom, with all the windows wide open. Never keep him in a hot kitchen if you can possibly avoid it: breathing stale air, especially hot smoky air, will make him pale and restless and bad tempered. No growing animal or plant can flourish without light and air, and babies are no exception to this rule; so see that your baby lives an open air life, and when you must have him indoors choose your lightest, airiest room for him. I have seen really bonny babies brought up in barges and sailing vessels, in shanties built of old railway carriages, in tiny wooden bungalows, in all sorts of strange places, and brought up with success, so nurseries are not a necessity.

If you can give the baby a room of his own for a nursery, choose the best one available, the one that gets all the light and air. Often this is given up as a spare room for visitors, who may stay only a few week-ends during the year, while the baby has to live in a small, dark nursery. This is a mistake—your baby's welfare depends to a great extent on a sunny room and he should come first.

Buy only the minimum of furniture, and that strong and easily cleaned, so that the baby can have plenty of room for crawling about. There should be thin bars across the window, and short, fadeless, washable curtains. Walls are best painted cream with a good washing paint, while the floor should be covered with linoleum or rubber, with a few brightly coloured washable rugs. Electric and gas fires are useful in that they can be turned on for a short time to warm the nursery and then turned off again. A fireguard is a necessity: it should have bars over the top, for children have been known to topple *over* the fireguard.

Cots

The best cot to buy is the ordinary wicker cradle, with or without a stand. It is light, easily moved, washable and cheap, and, most important of all, it allows the baby to get plenty of fresh air while he is sleeping. The cradle is best left unlined, or at most lined with voile, net or muslin; anything else prevents the baby getting enough air. Curtains are bad and are a relic of the time when it was thought that fresh air on a baby's face caused coughs and colds. A plain wicker cradle, lined with white net, spotlessly clean, without any fussy bows or ribbons, looks the neatest and most practical: an ordinary clothes basket makes an excellent bed.

Wicker cradles are fairly cheap, but if you have to be careful about money you can manage without one—put the baby straight into a drop-side cot.

In making the bed, put your large enveloping blanket at the bottom, big enough to overlap both sides and the end of the cot by a couple of feet. On this put your mattress, made of hair or wool. (Some mothers use a second mattress on top of this as a soft shakedown.) Now comes your waterproof or jaconet, cut the same size as the mattress, and the underblanket over this; then a pair of soft blankets. Don't have a pillow, for the baby is apt to roll over and bury his face in it, and fatalities are not unknown. Besides, it is much easier to breathe if there is no pillow. If you like, you can put a clean soft folded napkin under his head. Everything should be aired thoroughly from time to time. If the baby is very young, wrap him in a shawl and tuck him up in bed, then

bring over the sides and end of the enveloping blanket and put a loose silk or cotton cover over all. No eiderdown is wanted. If he is liable to be sick, put a soft napkin, folded several times, between his cheek and the under-blanket. Lay the baby sometimes on his right side, sometimes on his left: the fact that the heart is on the left side makes no odds. As he gets older, don't wrap him round in the shawl but lay it over him and later give it up altogether. Remember that babies vary, that what suits one does not necessarily suit another; one may need more bedclothes, another fewer. Test this by feeling his body when he is asleep. He should feel perfectly warm and his brow should be cool: there should be no suggestion of stickiness, nor should his head feel damp and perspiring: if so, reduce the number of blankets. More babies suffer from an excess of bedclothes than from the reverse: too many bedclothes and a hot airless room are the main reasons for a restless, sleepless night. If he is liable to twist and turn about at night, and toss off the bedclothes, put him in a sleeping bag.

Once the first cot is outgrown, get the largest drop-side cot you can buy; intermediate sizes are only a waste of money.

A baby should never be allowed to sleep in a grown-up's double bed, for there is considerable risk of suffocation if he should wriggle down under the bedclothes.

The best place for the baby's cot is close up under the window, with a small screen between it and the door. It should not be pushed up against a wall, for this prevents the free circulation of air. As long as the baby is tucked up warm in bed, cold air does him nothing but good. Babies sleep extremely well on open-air balconies, both in summer and winter. It is hardly ever necessary to have a fire in a room where a child is sleeping.

Prams

All young growing things need sun, light, air and exercise. This applies to babies just as much as it does to horses, puppies and kittens. Now it is a common sight at all times of the year to see a baby lying at the bottom of a pram, being pushed through the streets or in the parks by his mother. The pram-hood is often up, the baby heavily over-

dressed in his out-of-door clothes, covered with blankets and a smart pram rug. What sun, light, air or exercise does this baby get? In my opinion more harm than good is done by prams. This is not to deny their use in getting a baby quickly from house to park—this is reasonable; but it really is not necessary to spend hours pram-pushing. A small garden, a balcony or even a fire-escape will answer just as well. Anybody who has pushed a pram for 2 hours morning and afternoon can have little time for anything else: washing, cleaning and making clothes must all be skimped. In summer a wicker cot or a Moses' basket in the garden is much better than a pram; away from the dust and glare of the streets, lying quietly in the shade of a tree, the child can sleep his fill. Besides there is no doubt that the constant jolting movements of the pram are a strain on the baby's eyes, spine and brain. If you watch a baby being pushed along in the best possible pram you will see that he is never still for an instant. Use your pram then sparingly and get your baby out of it as soon as you can. In fine weather, once you reach the park, you can double up a rug for him on the grass, lay him on his tummy and let him kick about to his heart's content. If he is old enough to stand, you can put reins on him and teach him how to walk. A pram is not a cot, though it is often used as one.

If you live in town, however, and have no garden, a pram is more or less a necessity. See that it is shallow and well sprung, that it can be easily cleaned, that it has a safety chain and safety strap. You can often buy a good pram secondhand. Some shops, catering especially for babies, have a pram repairing service, but any handy man can do what is wanted. This might be a job for your husband. When not in use, keep the hood up, otherwise it will crack along the folds. It will pay you to buy some blankets or rugs especially for the pram, rather than use blankets off the baby's bed. You will find a sleeping bag useful in cold weather, while on rainy days you will need a waterproof cover.

Except in heavy rain or a really high wind, the hood should always be kept down flat. There is no need to keep the hood up in sharp frosty weather—the baby needs all the air he can get; nor should the pram ever be kept in the

blazing sun with the hood up, for this makes the baby extremely hot and uncomfortable, and he is then considerably worse off than if he had been kept quietly at home in an airy room. The ideal is to be under the sky in the shade of a wall or tree, or failing this, on a cool balcony or verandah. It is not wise to take a young child out in the hottest part of the day if this can be avoided. It is best to let him rest at this time and have his outings in the freshness of the early morning and the cool of the evening. But sometimes the mother cannot help it, she *must* take her baby out during the middle part of the day ; a canopy is then very useful.

Toys

Toys should be few and simple and inexpensive. They should be washable and have no sharp corners : they should not be painted or fluffy, for the baby will put everything into his mouth. To help his growing sense of shape and size and colour, they should all be very different—perhaps a wooden rattle, a celluloid duck, a string of beads and a few small leather animals.

CHAPTER V

GROWTH AND DEVELOPMENT

THE growth and development of the baby divides itself naturally into two aspects—the growth of the body and the growth of the mind. Both are equally important, though perhaps we are apt to stress the former and pay too little heed to the latter. Growth is a subject of the greatest interest, of the most amazing complexity; few can watch the filling out of the child's body, his gain in stature, his early attempts at walking and talking, and the quiet unfolding of his emotional life, without marvelling at the power and intensity of the forces that lie behind it. All stages in the development of Man, his first efforts at walking and talking and grasping objects, his early struggles with speech—steps which have raised him from the level of the animals—are epitomised in the development of the baby: that is why babies are of abiding interest. Growth is not simply gradual enlargement: it is a far more subtle affair than this. The child is *not* a miniature adult. He comes into the world with some parts of his body—his heart, for instance—already working very efficiently; while other parts, such as his brain and nervous system, are very immature, and need many months or years for their gradual development. It seems to be a rule throughout Nature that the greater the ultimate power and splendour of the body, the slower its rate of growth. Creatures that are low in the animal kingdom mature rapidly; Man, with his keen perception, with his distinctive ability to use his hands, needs much more time in which to unfold the flowers of his mind.

All parts of the body do not grow at an equal rate: some mature early, some late. The bones of the head, the brain and the eyes, for example, far outstrip the rest of the body in their early development, so much so that by the time the child is 2 years old these structures have reached two-thirds of their adult size. The genital organs, on the other hand,

grow but slowly in infancy and remain almost stationary from two to ten. Every part of the body has its own natural rate of growth, its own peculiar rhythm, which must be allowed to go its way in a steady unhurried fashion. To force ahead of the proper time of development, as one would force a hot-house plant, is to court trouble.

Disease strikes its hardest when growth is most rapid, so it is of the greatest importance to keep a baby perfectly fit and healthy during his first years of life. Rickets will twist the limbs of a growing baby yet will hardly affect the bones of a child or young adult. We constantly hear mothers say that it does not matter very much, " that the child will grow out of it." Now, although there is certainly much truth in this idea of outgrowing disease, it is dangerous to place too much reliance upon it, for the extent to which babies and young children " grow out " of disease varies with the part of the body that is affected. In the child's bony framework, for example, the powers of repair are comparatively great. The slight degrees of bow-legs, knock-knees and flat feet which are so common almost invariably disappear by the time the child is 10 years old. Even after severe deformities of the bones in infancy the child tends to grow clean of limb and straight of trunk, for there is an innate tendency towards symmetrical and harmonious growth. In the case of the brain and nervous system, however, the powers of repair after injury or disease are very limited : growth of new nerve cells is very slow, and then these cells have to be re-educated to transmit nervous impulses. Every effort should then be made to keep the child well during his first years, to give him a great start in life with a sturdy body and a vigorous mind.

And now to consider quite briefly the growth and development of the body. A great deal of information can be obtained by weighing the baby and taking his height regularly during infancy. He should be weighed at first every week, later every fortnight. Minor ups and downs of weight are almost the rule, so don't weigh the baby too often, otherwise you may think one of the small losses is important. *Always judge by the baby's general condition* (see p. 84). Nature is no stickler for uniformity, and it must not be

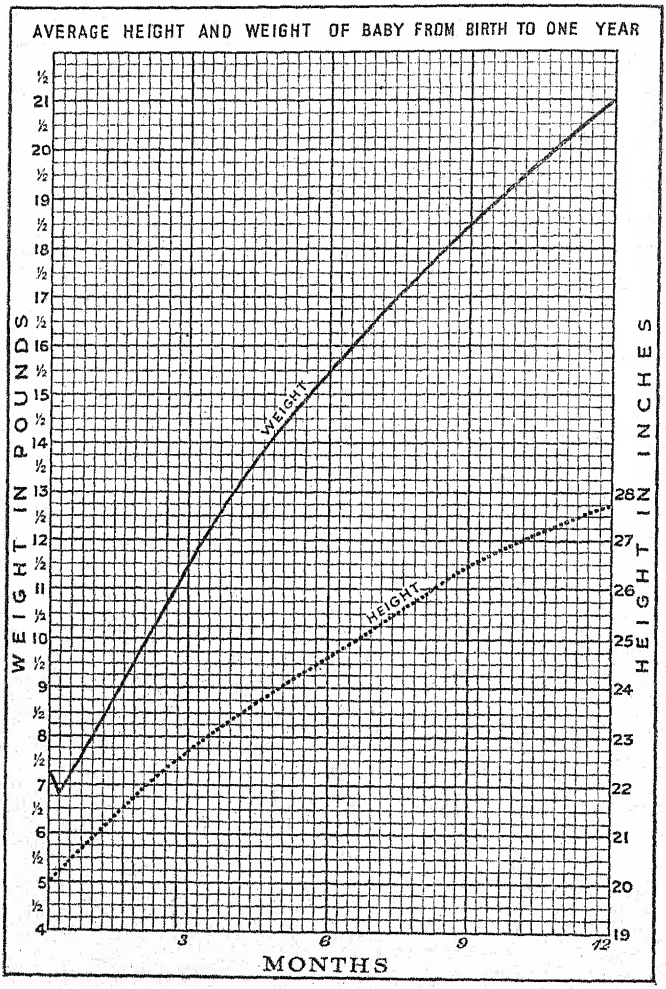

AVERAGE HEIGHT AND WEIGHT OF BABY FROM BIRTH TO ONE YEAR
WEIGHT IN POUNDS
HEIGHT IN INCHES
WEIGHT
HEIGHT
MONTHS
3
6
9
12

FIG. 1.

imagined that all babies will conform to the table of weights and heights given here (Fig. 1). The type of growth implicit in this curve can tell little of the profound changes taking place in any given child. It serves solely to tell us of the growth of the child's bony framework, of his limbs and of his muscles : it can tell us nothing of the important things, the growth of the child's brain, of his vision and hearing, of the ability to use his hands. Charts giving *average* figures can only be of a very limited value, for Nature knows no average, only an optimum. Many of the deviations from these tables are not due to perversions of growth and development, but are simply gains or delays natural to the baby in question. One baby may be born weighing 5 lb. and progress steadily parallel to the weight curve, although always below the average : another born of tall parents may weigh 10 lb. at birth and always weigh well over the average. Considerable margin then must be allowed from any tables of average heights and weights.

The Fontanelle

The fontanelle varies greatly in size at birth. In some babies it may only measure ½ inch in either direction, in others it may be as much as 2½ inches each way. In most babies it enlarges until the baby is about 9 months old, and then it gradually diminishes in size ; in others it diminishes steadily from the time of birth. It should measure about 1 inch each way by the age of one, and it should close at about the 18th month. Many mothers fear to touch the fontanelle as it is supposed to be dangerous. This is an old wives' tale. The skin over the fontanelle can be soaped and washed just as any other part of the body.

The Development of the Teeth

The milk teeth lie almost completely formed in the gums at birth. Their proper shape and structure depend largely upon the mother's health and diet during pregnancy : if these have been perfect, then it is highly probable that the baby's milk teeth will be perfect. If during the first two years, when the teeth are growing rapidly, the baby has had a prolonged illness or disorder of nutrition, the teeth are apt

to show signs of early decay. Some mothers think the milk teeth are not important and pay little heed to them; but this is a serious mistake, for unless the defects in the baby's health and diet are remedied the permanent teeth may also be ruined.

The following table forms a rough guide to the dates at which the various milk teeth are cut:—

7th	month.	Lower central incisors.
8th	,,	Upper central incisors; upper lateral incisors.
10th–12th	,,	Lower lateral incisors.
14th	,,	First molars.
17th	,,	Canines.
24th	,,	Back molars.

There is considerable variation in these dates. Some babies cut their first teeth at 4 or 5 months; others, apparently equally healthy, have no teeth till 9 or 10 months, even as late as 1 year. Sometimes this is a family trait. Cutting the first teeth early does not necessarily mean that the baby is forward and developing more rapidly than other babies—there may be a long interval between the appearance of the first tooth and the appearance of the next. The intervals between the cutting of teeth are most irregular: often when teething seems to have proceeded very slowly for some months several more teeth will appear in rapid succession.

Occasionally when the teeth come through, a greenish discoloration may be noticed at the neck of the tooth. This is called a dental membrane. It has nothing to do with dental decay, and it can easily be removed by scaling when the child is three or four years old.

We have now to consider the growth of the child's brain—the unfolding of his sense of vision and hearing and touch, his early attempts to use his hands, his strenuous efforts to stand and crawl, and the growth of his emotions—in fact, the growth of the child's whole personality.

The Growth of Vision

Looking is an *active* process. A baby has to learn to fix his eyes steadily on a toy before he can see it clearly. Now

the movements of the eyes are controlled by tiny muscles, and time must pass before these muscles can work together in harmony, before the brain can grow and the visual nerve cells become more organised. At first the eyes of a new-born baby wander aimlessly about, often so independently that a squint results. This is sure to worry you, but there is no reason to be alarmed—it is only a passing phase, of no importance in the early days. In a week or two the baby can keep his eyes still for a few moments : he is not yet able to focus clearly, but he can distinguish between light and darkness. By the time he is a month old his behaviour is more mature. If a brightly coloured toy is dangled in front of him, he will regard it solemnly ; and if the toy is moved very slowly across his line of vision, he will follow it with his eyes. At 3 months he recognises his mother's face bending over him. At 4 months he has learnt to hold his head steady when he is propped up in his mother's arms—a great advance, for now there is so much for him to look at. He gazes at everything and his interest in life quickens in response. At 6 months his muscles have gained strength, his judgment of distance has improved, he can reach out for a toy and pick it up. He does this clumsily at first, for he grasps it with his whole hand ; it is not till he is 8 or 9 months old that he can use his thumb and forefinger with any precision, and then begin his first lessons in space and distance. He no longer grasps at toys hopelessly beyond his reach—he begins to recognise what is near and what is far. He starts to crawl, and this gives him the chance to use his forefinger to poke and pry into everything ; and through the tireless use of his hands and eyes he gradually discovers the complexities of space.

The visual mechanism is of great delicacy and easily upset by illness : so it is not uncommon to see a transient squint develop during the course of *any* complaint in infancy. This should disappear gradually as the baby recovers, but if convalescence is lengthy or marred by a further illness, the visual mechanism may be thrown out of gear and a permanent squint result. Much however can be done if only the baby is taken promptly to an eye specialist, or to the eye department of a General Hospital.

Hearing

The sense of hearing is usually acute from birth. A newborn baby will give a startled jump at any loud sound and begin to cry. This is natural and normal, it is not necessarily a sign that the baby has a nervous temperament. When he is a month older he will distinguish between sound and noise and turn his head towards the sound. He tends to react to a voice quicker than to any other sound. At 4 months practically all babies will respond to a voice or to the ringing of a bell by turning both head and eyes in the right direction; and now the quality of sounds, as shown by the child's evident pleasure, begins to be distinguished. Babies from a very early age love to be drowsed to sleep with lullabies; I have seen several babies aged 5 months, some even younger, who laughed and cooed with pleasure when they listened to music, whether it was their mother playing the piano for them or a dance band heard over the wireless. At 8 months the baby shows interest in sound production and is perfectly happy banging toys, ringing a bell or shaking a rattle. Understanding comes long before speech: a baby even of 8 or 9 months should understand perfectly by his mother's tone and manner what is expected of him, and if he is well trained he should have learnt that certain sounds mean certain things. A baby learns to imitate sounds during the second half of his first year, and by the time he is one year old he should be able to repeat simple words with fair accuracy and should be asking for things by pointing to them.

Man owes his peculiar position in the world largely to his skill in using his hands. At birth the hand is useless as an instrument of the will. A baby waves his arms about in high good humour and clenches and unclenches his fists, but with no apparent aim or object; it is not till the 4th month that he is beginning to grasp a brightly coloured toy in his fist. At 5 months he has learnt to take hold of a toy with his fingers and shows some sort of resistance if it is taken away from him; at 6 months he will lean his whole body towards toys that are out of reach; while at 7 months he should be able to reach through the bars of his play-pen to seize a toy and be able to hold a cup in his hands. Rapid increase in the ability to use the hands is essential for the

normal development of the brain, for it is only by such practical skill that the baby can acquire knowledge of the world around him.

After the age of 6 months he should not be left too much in his pram or cot ; he should be put in a play-pen, either indoors or, better still, out in the garden, and encouraged to use his hands. He should have toys of various shapes and sizes to hold—bone rings, rubber toys, a ball, a rattle, anything that is cheap and can be easily cleaned. He will put everything in his mouth, so painted things are best avoided.

He cannot have things all his own way—he must learn to accept the rough with the smooth. One baby put in his pen will grab for a toy out of reach. If he can't get it, he'll be angry and cry, and perhaps his mother to quieten him and to get a moment's peace will get it for him. Another baby will size up the situation and shuffle and wriggle his way along the ground till he can reach it. The first baby has not learnt to help himself, as he will have to do in the years to come : and his mother, maybe from the best of motives, has begun to spoil him. Talk to him in a friendly fashion, smile at him and jolly him and help him to crawl along the ground with a few gentle pushes and pulls. He may not have realised that he can move around quite well.

By the age of one a baby usually shows a decided preference for the use of his right hand. Occasionally he prefers his left hand and then it is best to humour him : to insist on his using his right hand is probably unwise in the face of emotional resistance. Irritation, worry and scolding are all bad for a baby who is trying to learn.

By the age of 3–4 months a baby can hold his head erect. He tends to dribble a good deal at this time, but this does not mean that he is going to cut his first teeth, although this is the popular view. When he starts to sit up he has to learn to keep his mouth closed, to swallow his saliva : until he can do this he just dribbles. About this time, too, he discovers that he has fingers and thumbs, and then he begins the fascinating game of stuffing them, and everything else he can lay hands on, into his mouth. This is natural and normal : all babies do it. The lips and tongue are provided with nerves of an exquisite sensibility, and the baby learns a great

deal about hardness and softness and the queer tastes of things by putting everything into his mouth. This hand-to-mouth instinct is very active at 6 months, but should be on the wane at 9 months and gone by the age of one—in other words, the child should gradually be giving up this infantile pleasure in favour of better things—pulling himself up in his play-pen, playing about with toys, and so forth. If, however, he has too little to do with his hands he may persist in sucking his fingers and thumbs from sheer boredom, and this can quite easily develop into a bad habit.

At 6 months most babies should be able to sit up quite well, and at this age when placed on the ground on their backs they should be able to roll over on to their stomachs. At 8 or 8½ months they can usually make some progress backwards or sideways when laid face downwards on the ground, the stomach serving as a useful pivot. At a later stage they learn to make suspension bridges of their bodies by raising themselves on their hands and toes, and then they start the interesting game of pushing themselves backwards along the ground, till one day they can really crawl. Some babies crawl well on their hands and knees from the very first, others get along somehow in a sitting position—rather like an Indian paddling a canoe—others will go along on all fours without putting their knees to the ground. As a rule, the fitter the baby and the more muscular he is, the better he crawls; it is the fat flabby baby who tends to get about in all sorts of queer ways, simply because he has not the necessary muscles to support his heavy body. Even when walking has begun a baby will resort to crawling if he wants to cover ground more quickly. Some babies learn to stand and walk without ever going through the crawling stage.

A baby should be able to pull himself up into a standing position and stand holding on to a chair or to his play-pen by about the 10th month. Many can walk with assistance at this age; most, but not all, by the age of one. The exact date depends mostly on the baby's intelligence; interest in his surroundings and curiosity are the spurs to his early efforts at standing and walking. Early standing also depends a great deal on his early training. A baby of 4 months, if held under his arms so that his feet just touch his mother's

lap, will soon learn to push out with his feet and dance about chuckling with laughter : this gives him a great sense of achievement, an ambition to do more.

Most babies are walking alone by the 13th or 14th month. Statistics on a large scale show that 60 per cent. are walking by the age of 13 months, 80 per cent. by the age of 15 months. The exact time depends on the child's intelligence and on the strength of his muscles. Children with quick brains walk sooner than those with slower wits : in some clever families all the children walk at a very early age. Height apparently is not a factor of importance provided that the child's muscles are strong enough to support him. Girls, with their earlier mental development, appear to walk rather sooner than boys ; children in warm climates sooner than those from cooler countries. Dancing or walking only on the toes is common in the early stages : later the child learns to use the sole of the foot. Tracings of babies' footprints show that at first they walk with their weight on the *heels ;* gradually they learn to carry their weight more and more forward, till by the age of four they walk like a grown-up, with the weight on the ball of the foot. Most babies turn their toes out at first, and they do not walk with feet pointing straight ahead till they are more advanced. They keep their balance by walking with the feet wide apart, by bending slightly at the hips and knees to lower the centre of gravity, and by using their arms as would a tight-rope walker ; later, when they are more expert, they learn to walk with their feet closer together.

Finally a word as to the growth of the child's emotions. During his early years he is a creature quick to sense atmosphere, quick to react to influences, good or bad, that affect his daily life. If the home is happy and the baby is a pleasure to his parents, he knows it and will blossom forth accordingly ; if strife or discord are there, or if the child is unwanted, he knows it and will not thrive in spite of lavish care. From the very first he needs treating with tact and consideration, for he is a young individual with very definite likes and dislikes of his own. He cannot speak and explain his wants, so if he is thwarted of his purpose, he can only give vent to his rage and indignation with passionate yells

and cries. At first he will sleep most of the day, but by the time he is 6 months old he needs plenty to do ; in fact, many of his outbursts of bad temper are due to boredom. Given proper food and clothes, plenty of fresh air, and scope for their activities, most babies are happy young things. They have to learn at the most prodigious rate—to sit, to stand, to crawl, to walk, to use their hands ; if they have every chance to do this they will develop fast and grow in grace. But, above all, the young child wants his father's and mother's love—this is his ever-present need.

CHAPTER VI

BREAST-FEEDING

It is right and proper that every mother should feed her baby at the breast. The child in the womb is fed alone by what he derives from his mother's blood. Her food is his food, her drink is his drink; and from that dark stream he draws the elements to knit him into a compact and sturdy child. Soon after birth the breasts start to give milk, so that the baby may continue to draw nourishment from the same source as before. Surely a young child who has recently undergone the great hazards of birth should at least be spared the risks of breaking this natural sequence of events, and not be taken from his mother's breast to be brought up on an alien milk, never intended by Nature for him. Some talk of the safety of breast-feeding, some of its simplicity and cheapness, of the immunity to various diseases that it confers; but all these are secondary considerations. Breast-feeding is the baby's birthright, it is one of the finest emotional experiences in a woman's life. It brings out hidden depths of love and tenderness in her, and profound feelings of pleasure and pride in giving without stint, of being all-in-all to her baby. The woman who has never breast-fed a baby little knows what she has missed. Many a mother has been told by her relatives or nurse that she could not feed her baby and on their advice has weaned him, yet when a second baby has arrived and she has had a more experienced nurse to look after her, she has breast-fed him successfully. Maternity nurses and doctors cannot be acquitted of all blame: lip-service is paid to the general principle that breast-feeding is best, but both are apt to give a mother little practical help during the antenatal period, and in the early days of the baby's life; both are too quick to advise artificial feeding should any difficulty with breast-feeding

arise. For difficulties do undoubtedly arise. To deny them and to adopt the standpoint that breast-feeding is a simple natural process, that all a mother has to do is to put the baby to the breast and all will be well, is to increase the ultimate number of failures. If then it seems that a disproportionate amount of space has been devoted to the antenatal treatment of the breast, and to the difficulties that may arise in breast-feeding, it is only because I believe whole-heartedly that breast-feeding is best for mother and child, that with proper care there should be few failures.

First I wish to draw a clear distinction between the *ability* to breast-feed, and the *will* to breast-feed, for the two are commonly confused.

The Ability to Breast-feed

The ability to breast-feed depends on three main factors :—

1. On the proper structure of the breast and good formation of the nipples.
2. On good antenatal care and skilled supervision in the early days after delivery.
3. On good nutrition and adequate rest and sleep.

Structural defects of the breasts and nipples are quite common. Though many women have well-formed breasts that give milk freely, others have a real inborn lack of breast-tissue, and for them breast-feeding may be difficult, if not impossible. It is not a question of *size* of the breasts, for tiny well-formed breasts may give plenty of milk, while large, pendulous breasts prove inadequate. It is the amount of milk-forming tissue that matters. Then there are a few women who come to the doctor in their second or third pregnancies with breasts that show the scars of previous abscesses ; while others come with depressed nipples, which are often a serious drawback to successful breast-feeding. These women demand our sympathy, our active help. It has been too lightly assumed in the past that a mother is to *blame* if she does not feed her baby. Of course this may sometimes be true, but often it is quite unfair to the mother

to suggest this—with the best will in the world breast-feeding for her is a physical impossibility.

More often the true cause of failure is a certain lack of skill on the part of the doctor or nurse. Many of the troubles with breast-feeding which occur in the week or two after delivery can be *prevented* by good antenatal and postnatal care. Depressed nipples can be corrected during pregnancy; while tuition given to the mother in breast massage and expression of milk does away with most of those troublesome cases of engorgement and sore nipples which are such a common cause of failure in breast-feeding.

To breast-feed successfully, a mother must have proper food and proper sleep. You want a first-rate diet—milk, butter, eggs, fresh fish, fruits, salads and vegetables—if you want a first-rate supply of milk. Poor feeding can only result in poor quality milk. As for sleep, sometimes milk fails because the mother has too much to do—household work, washing and cooking and scrubbing floors, and perhaps other children to get ready for school. At this time she badly needs extra rest, extra help about the house for a week or two: but how is she to get this? It is all very well if she has a friend, or if she can pay someone to give her a hand: but the working classes often cannot do this.

Failures are commoner with first-borns, for the mother is unused to babies and their ways, and doubts her ability to breast-feed. A slight drop in the baby's weight or a small gain and she jumps to the conclusion that she is a failure, especially if there has been too great an insistence on test-feeding in the hospital, too little privacy, too little chance for her to get used to her baby quietly on her own. And so yet another baby is put on to a bottle.

Some women are discharged from hospital tired and worried because the baby is not doing well; some before breast-feeding is fully established; some even with painful breasts. All these are liable to fail on return home. The will to breast-feed is there, but they are asked to do too much. They need more help, more active supervision, before breast-feeding can be called a going concern.

The Will to Breast-feed

Some mothers say they are unable to breast-feed their babies, but the real truth is that they do not wish to do so. It is interesting to unravel their motives. Some refuse out of pure selfishness: the baby means little to them, they are determined to go on having "a good time," and breast-feeding is a tie. Others refuse in the fear that it will ruin their figures; others because they wish to be with their husbands as much as possible, or they think the social obligations of being a hostess outweigh the duty of being a mother. The fact that artificial feeding is now so simple and so universal has certainly encouraged this attitude; for every woman can quote you dozens of babies brought up on the bottle, apparently with complete success. And if bottle-feeding is so successful, they say to themselves, why all this fuss about breast-feeding?

There can be no doubt whatever that breast-feeding is best for mother and baby. To give in to the whims of the mother without putting the truth clearly to her is, I think, a pity. Many women are simply in two minds about breast-feeding, and need only encouragement and a little persuasion and help to make a success of it; but if faced by an attitude of doubt or despair on the part of the relatives, they lose heart and are swayed towards artificial feeding, unless they get strong support from doctor or nurse.

Sometimes it is the husband who is opposed to breast-feeding. He feels that it is too much to ask of his wife; that after 9 long months of pregnancy and all the rigours of the confinement itself, she deserves more scope and freedom to live her own life. This is mistaken kindness. Making a baby and bringing him into the world make great inroads on a woman's reserves of strength and nervous energy; she can only recover these if she has plenty of rest during the first few months and quietly feeds her child. Quite often the husband would be glad to see his first-born breast-fed, but he is too shy to say so directly, for he feels that it is for his wife to make the decision.

The attitude of mind in which she undertakes breast-feeding is of the greatest importance. She must want to

give milk, to be everything to her child, his sole sustainer and first friend. If this is her attitude, success is almost a foregone conclusion: but too often breast-feeding is begun in a mood of self-sacrifice, perhaps under a sense of grievance, and then it is rarely, if ever, satisfactory. Breast-feeding, it is true, is not always an unmixed pleasure—many mothers go through a phase of weariness and disenchantment; but then all tides have their ebbs and flows, and there are great compensations.

Sometimes a woman has a deep-seated psychological distaste for breast-feeding, a distaste even for her baby, difficult if not impossible to fathom. With time and perseverance she may grow out of this frame of mind and come to love her child nuzzling at the breast; so in the early days the doctor and nurse should quietly insist on breast-feeding. But if, as time goes by, she still loathes it, and a quiet talk does no good, it is better not to insist, but to let the baby be weaned quietly to artificial feeding; for it is doubtful if the baby will ever flourish on the breast in such strange circumstances.

The necessity of earning a living is sometimes brought forward as a reason against breast-feeding. It is a sad commentary on the world of to-day that many women as soon as they leave hospital have to wean the baby and put him into a day nursery for purely economic reasons: for unless they can earn more money the family can have no more than the bare essentials of life. They long to breast-feed their babies, but they *must* work if they are to support a family. These women demand our closest sympathy: they are a social problem which should shake all our complacency. They pose the question: can a nation really be great if mothers are forced out to work when they should be breast-feeding their babies? Of course there are others to whom breast-feeding is a bore, who prefer the freedom and bustle of factory or office life to domestic routine. In such a case the doctor should give reason for the faith that is in him, and not let the mother drift into artificial feeding without putting up a strong plea for the baby. Breast-feeding should come first, the job second.

Occasionally there are good medical grounds why a mother

should not attempt or persevere with breast-feeding. Such conditions as :—

1. Serious illnesses, such as typhoid fever, tuberculosis, severe anæmia, chronic nephritis, or Graves' disease.
2. Serious mental breakdowns.
3. Acute infections, if severe.

The Establishment of Breast-feeding

You are bound to feel worn out physically and emotionally immediately after the birth of the baby. Your great need at this time is for rest and sleep ; and the more difficult the labour, the longer the sleep that will be necessary to restore your body and nerves.

It is important that the first few feeds at the breast should be a pleasure to both you and the baby, for on these feeds depends much of the success or failure of breast-feeding. No attempt then should be made to put the baby to the breast until you have had a good rest and feel quite recovered from the effects of labour, and now you are looking forward to holding your baby tight and feeding him. It follows then that there should be no definite rule as to the time when the first feed is given : a moment should be chosen sometime during the first 24 hours when you are thoroughly rested and happy, and the baby awake and active and hungry. Until this time comes most babies are quite satisfied with boiled water : there is no urgent need for milk.

You must be in a comfortable position for breast-feeding. If you are able to sit up in bed, the best position is with the baby held across your body and a small cushion tucked under your elbow. If you are not allowed to sit up (*e.g.*, after a Cæsarean section) you should lie over on your side with the baby alongside. The important point is that you should feel really comfortable, holding the baby naturally to the breast. The nipple should be held between the second and third fingers so that the upper part of the breast is kept well away from the baby's nose : he can then breathe steadily through his nose while he feeds. Not only the nipple but *much of the surrounding breast* goes into the baby's mouth : mothers do not always know this. He needs to be trained to take the breast smoothly and steadily, so you will have to

recognise when he is really feeding and when he is simply playing about. He must never be allowed to sleep at the breast.

Next there is the baby's comfort to consider. Many babies when put to the breast become creatures of activity. They like to stretch, to kick out with their arms and legs, to turn and twist about, so it is important that the baby should have enough freedom for this, that his clothes should be loose and the enveloping shawl slack. Many babies are quite expert from the very first; others fumble about and require much practice and coaxing before they have learned to take the breast well. If you gently express a few drops of breast milk for him yourself, he will tumble to it quickly enough.

The baby is usually put to the breast once or twice during the first 24 hours, unless you are still feeling the effects of labour. From the second day onwards babies weighing over 7 lb. do well if fed 4-hourly, the most convenient times being 6 a.m., 10 a.m., 6 p.m., and 10 p.m. A baby may need to be fed 3-hourly :—

1. If he is premature;
2. If he weighs under 7 lb.;
3. If he is a strong, hungry baby that cannot last as long as 4 hours without constant crying.

If the baby is fed 3-hourly he is usually put to the breast at 6 a.m., 9 a.m., 12 noon, 3 p.m., 6 p.m., and 10 p.m. In every 3-hourly feeding case it is best to change the baby over to a 4-hourly routine as soon as he is gaining weight satisfactorily and the breast-feeding going ahead well, for the longer intervals allow the mother more time for rest and sleep. Few babies need breast-feeding 3-hourly for more than 3 or 4 weeks.

Now these are times, you must realise, that are convenient in hospitals and nursing-homes, for they could not go through the day's work unless they had routine hours; but it by no means follows that it is best for the baby. He simply follows his instincts. He knows nothing about the clock: he only knows that his stomach feels painfully empty and he cries out loud to let you know it. If you have the baby at home, it is best then in the early days to feed him *approximately* every 3–4 hours, depending on how long he can go

without crying. Crying means hunger: there is no sense in postponing his feed because it is not yet time. After all, thousands of babies are brought up all over the world, in wild outlandish places, with complete success; and there the mother simply feeds her baby when he cries. There is no sense in being the slave to a clock.

Many hospitals make it a rule to give no night feed, whether the baby be fed 3-hourly or 4-hourly; but most babies cannot go through the 8 hours' interval at night without crying from sheer hunger. They do much better if a night feed is given to them between 2 a.m. and 3 a.m. The mother is happier if she knows that her baby is satisfied, she sleeps better in that certainty, and she has an easier time with the breast when the milk is coming in. This night feed may be necessary for 3–4 weeks; it should only be given up when the baby can sleep right through the night.

At this point I should like to emphasise the importance of test-weighing (see p. 58) during the first week or two when the flow of milk is being established. Test-feeding scales are not expensive: they can be hired for as little as £1 for 3 months.* Test-weighing takes up very little time and its results are of the highest importance, for babies show extraordinary differences in the amounts of milk they get from their mothers during the first weeks of life. If left to their own devices some will be taking as much as 20 oz. a day by the end of the first week; these need watching in case they show signs of overfeeding. Others will not get more than 5 or 6 oz. a day by the end of the first week; for them there is a serious risk of underfeeding. Only test-weighing can determine accurately how much the baby is taking, and on its results may depend the entire success of a mother breast-feeding her baby.

As a rule the baby should be put to both breasts at each feed, otherwise there is some risk of underfeeding: but in some cases where test-weighing shows that milk is coming into the breasts easily and in large amount, the baby can be put to the breasts alternately. For example, on the 5th day a baby was taking 3½ oz. from the left breast at one feed

* Garrould's, of 150, Edgware Road, London, W.2, will supply them for this amount.

and 3 oz. from the right breast at the next feed; to offer the baby both breasts at each feed would have been to run the risk of overfeeding.

At none of the first few feeds should the time exceed a minute or two on each side, for if the baby is allowed to spend 20 minutes or so sucking powerfully at breasts that are still empty he will only hurt his mother unbearably, and then breast-feeding may be abandoned. It is only when the milk is coming in steadily that the time at the breasts should be gradually increased.

At this point you may be wondering how much milk the newborn baby needs each day. For the first week of life, and taking a baby that weighs $6\frac{1}{2}$–$7\frac{1}{2}$ lb., the best rule is as follows: The daily amount required = the day of life minus 1 multiplied by $2\frac{1}{2}$—*i.e.*, on the 4th day the baby needs $4 - 1 \times 2\frac{1}{2}$ oz. $= 7\frac{1}{2}$ oz. daily. Big babies will require a little more, small babies a little less. During the second week the amount required is about 2 oz. for every pound of the baby's weight, *i.e.*, if he weighs 8 lb., he should be taking $8 \times 2 = 16$ oz. daily. After the third week he should take about $2\frac{1}{2}$ oz. for every pound of his weight. These figures are only a rough guide: babies differ a great deal in their requirements, so due allowance must be made for individual variations.

For the first 24 hours then the baby is put to the breast once or twice, for 2–3 minutes each side. On the second day he is put to the breast 3-hourly or 4-hourly approximately, for perhaps 3–4 minutes each side. No hard and fast rule can be made, for with some mothers the milk is steadily increasing.

On the 3rd or 4th day the milk comes in, and this is when trouble is apt to occur. With some mothers the milk comes in smoothly and progressively and the baby takes it in an easy flow. But in others it comes in with a rush and the breasts rapidly become engorged: for there is a blockage in the milk ducts so that milk becomes dammed back. Unless something is done quickly to relieve this obstruction to the outflow, the secretion of breast milk may fail. (When she is questioned the mother says: "At first I had plenty of milk, but the baby couldn't get it, and then it all went.") If the

breast is examined carefully when it is engorged, it will be found to be so tense that it is quite impossible for the baby to get the nipple *together with the surrounding part of the breast* into his mouth—which, as we have seen, he does normally during breast-feeding. All he can get hold of is the nipple, and that delicate structure was never meant for hungry jaws. It takes only a few feeds before the nipples are sore, and if this state of affairs is allowed to go on cracks and fissures appear, and each feed is a torment to the mother. Weaning then becomes imperative, temporarily at any rate.

Now much of this grim sequence of affairs can be prevented. At the first sign that milk is coming in fast, massage the breast with both hands and express a little milk. This will ensure that the ducts are patent, and slacken off the tension. Do this before each feed ; for as long as the breast is a little relaxed the baby can take hold of a good mouthful and draw off the milk. Hot fomentations to the breast may be comforting, but massage and expression are far more important in relieving tension. Limitation of fluids and aperients, which are often recommended, only increase discomfort. Test-weighing is useful, for it will show at once how much milk the baby is really taking at each feed.*

During the first 3 days of life most babies lose a considerable amount of weight, the greatest loss being met with usually on the 4th day. This loss varies from a few ounces up to 1 lb., an average being 6 oz. The amount of loss varies with the size of the baby at birth : generally the larger the baby, the greater the loss. On the 4th or 5th day, as the milk starts to come in, the baby's weight begins to increase ; the quicker the milk comes in, the quicker he regains his birth weight—indeed, babies that take the breast well, particularly babies other than the first, may have almost no early loss of weight.

The birth weight is recovered generally by the 7th to 10th day, though in some cases where the breast milk comes in very slowly it may be 2–3 weeks before the baby has regained

* For medical readers I might add that Stilboestrol is a most useful drug to check the sudden influx of breast milk. The dose is 10 mgm., given by mouth if engorgement is likely ; the dose is repeated 4-hourly for 3–4 doses till it is certain that the tension is subsiding. The drug is used of course together with breast massage and expression.

his birth weight. During this period, *i.e.*, before the baby is properly established on the breast, he needs plenty of boiled water, particularly in hot weather, otherwise he is liable to get parched and overheated and to run a temperature. This is never serious provided that water is given promptly and the child kept cool by tepid sponging and by wearing lighter clothes. There is no need for complementary feeds in the first few days unless the loss of weight is severe and persistent, and then a dilute artificial feed may be necessary. A suitable formula for a 6–7 lb. baby would be :—

Half cream dried milk . .	2–2½ measures.
Dextrimaltose in sugar . .	½ teaspoon.
Boiled water	3–3½ oz.

Now there is a common belief that if there is no milk in the breast by the third day then it will never come in. This view, I regret to say, is held by many maternity nurses as well as mothers. It is, of course, quite untrue. In many cases the inflow is very gradual and there may be little milk in the breast for 7, even 10, days. To wean the baby on the 3rd day because the milk has not come in shows lack of knowledge and skill in breast-feeding. On pp. 73–76 details and charts of a case are given where the baby had *never* been put to the breast for the first 5 weeks of life, yet breast-feeding was completely successful within 1 month. It is only when the baby has been put to the breast steadily from birth for 2 or 3 weeks with little or no result in spite of proper care and test-weighing that one should consider that breast-feeding has failed.

Instructions as to the length of time allowed at the breast are most important. Some babies are drowsy and will nuzzle at the breast and stop and doze awhile after a minute or two of contented feeding, and when put down after 20 minutes they will be found to have taken far too little milk ; others will take vigorously for 5 minutes at each breast and be thoroughly satisfied. In the case of the mother with her first baby, where the milk is coming in slowly, it is important to get the child into good habits from the very first : he should never be allowed to dawdle or sleep at the breast. This only upsets and tires out the mother : the upright position maintained every 3–4 hours for ½ to ¾ of an hour soon gives rise

to backache, sometimes severely enough to be mistaken for some internal complication. Vigorous wide-awake feeding is essential. Sometimes, it is true, the over-fed baby will sleep, and sometimes a hungry, tired and overstrained baby will doze off, drowsy with the warmth and comfort of half a feed. The baby should be trained from the very first to take his feed in 15-20 minutes. It is customary in this country to advise that the baby be put to both breasts at each feed, allowing 8–10 minutes on each side, and there is no doubt that this suits most babies well; but with a baby that takes well and a mother with a plentiful supply of milk, it is, I think, even better to give both breasts at each feed, but to allow on an average 10–15 minutes on one side, 5 minutes on the other: the left breast is given first at one feed, the right at the next. This method has several advantages: (*a*) It ensures that each breast is *completely* emptied at regular intervals, which is the most essential point in breast-feeding; (*b*) The milk at the end of the breast-feed is the richest: this the baby will get only if the breast is emptied; (*c*) The baby really has to work for his feed instead of taking the easy milk from both sides. Work is good for him: it makes him fit and muscular: it gives him strong jaws and good teeth. When he has worked hard at the first breast, he is allowed the easy milk at the other—a reasonable reward for work well done; (*d*) Most mothers, I think, can breast-feed more easily and for longer periods on these lines.

Provided that the mother has a good supply of milk, many babies can be fed quite satisfactorily on alternate breasts, and so long as the child thrives there is no reason why this should not be done.

The exact time allowed for a feed depends on how quickly and easily the baby empties the breast, on the time of the day and on the child's natural appetite. A strong active baby may be quite satisfied with 8 minutes on one side and 3 on the other, perhaps even less: this is especially true of the 6 a.m. feed, when there is most milk. It is, of course, a mistake to keep the baby at the breast once it is empty, for then he will only be swallowing down air and be restless and uncomfortable later on with wind.

From the day of establishment the flow of milk in most

women increases rapidly, sometimes in the first few days almost too rapidly and in excess of the baby's requirements, so that he begins bringing up some of his feed. In other women the increase is much more gradual and it may be 2 or 3 weeks before the flow is properly established. These are the cases that require tact, patience and perseverance on the part of the doctor or nurse, if the baby is not to be weaned prematurely on to an artificial milk mixture. The increased flow reaches its maximum at 2–2½ months, when the mother may be giving 25–35 oz. daily, and then remains at about that level, so that a baby of 6 months is taking almost the same amount of food as a baby of 3 months and gaining weight steadily.

Regular feeding helps you to plan out your day, but you should have no hard and fast rules. The clock should be a convenience, not a master. A baby has no idea of the future : if he is hungry he is desperately so—he doesn't know that it is 5 p.m., and his feed is coming at 6 p.m. All he knows is that he is terribly hungry and he doesn't want a clock to tell him so. No two babies are alike : minor adjustments must be made to meet the situation. A large, fat baby needs more milk, a small baby less ; a sleepy baby less, a restless, nervous baby more. As a rule the baby should be woken up a little while before the feed is due. A baby, however small, has a definite appetite. If he has had a bad feed previously and wakens up hungrily a little before his time, feed him earlier ; if he is still fast asleep when his feed is due, feed him a little later. Don't waken him for his 6 a.m. feed : another hour on the long night interval won't upset him and the extra sleep will be a perfect boon to you. If he wakes as late as 7 or 7.30 a.m., give him a slightly smaller feed as the 10 a.m. is nearer. You will find that breast-feeding at 10 a.m., 2 p.m., and 6 p.m. is usually quite convenient and fits in well with the household arrangements, but 10 p.m. is often an awkward hour, as you may want to go out in the evening. Once the breast-feeding is going well there is no need to keep strictly to this time : the feed can be given quite well at 11 p.m., or even midnight, and you will often find the baby sleeping soundly when you come in. The exact times of feeding, then, are not very important : they can easily be altered to suit individual requirements.

Some babies, once breast-feeding is well established and the mother has plenty of milk, will thrive on four breast-feeds a day. Many babies 3-4 months old have been breast-fed successfully at 7 a.m., 12 noon, 5 p.m. and 10 p.m.; and others do perfectly well when breast-fed at 6 a.m., 10 a.m., 2 p.m., and 7 p.m.; and you will see quite excellent results with letting babies breast-feed just when they want to.

The Care of the Nursing Mother

Diet. During the first few days after the birth of the baby you should be kept on a light diet: for example, a suitable day's menu might be :—

Breakfast: Grapefruit or fresh fruit. Lightly boiled or scrambled eggs, with thin slices of bread and butter. Toast and butter and marmalade. Tea or coffee.

Lunch: Steamed fish and mashed potatoes. A salad. Stewed fruit with junket, custard or milk pudding.

Tea: Tea, with thin bread and butter.

Dinner: Clear soup, minced chicken and vegetables. Milk pudding.

Later on a more liberal diet can be given. The main essentials are: (1) To see that you have plenty of *fresh* food —milk, butter, eggs, fresh fish, cheese, vegetables, fruits and salads—and avoid dried, tinned or preserved foods; and (2) to see that you take only what you know agrees with you. It is a great mistake to "eat enough for two," unless you were definitely underweight when the baby was born. Food in excess only over-taxes the digestion and hinders the supply of milk.

As regards drinks, either a glass of milk, water or fruit juice should be taken at each breast-feed. If you like milk and milk agrees with you, by all means have it; if you dislike milk, it does not matter: water, fruit juice, soda water or barley water will do. Many mothers are asked to take large amounts of milk, patent foods, gruel, milk puddings, vitamin preparations and so forth, in the mistaken

idea that these will aid the production of milk ; but they are all worthless, except in the exceptional cases where the mother is considerably under-weight after the birth of the baby, and even then they must be given with discretion.

As a general rule, alcohol is best avoided by the nursing mother. Some doctors recommend stout. If you dislike stout, there is no sense in taking it ; but if you like it now and again and you feel it does you good, then take it : it will only do harm if taken in excess. Wine and spirits may be taken with a like discretion. Smoking in moderation does no harm, though in excess it may upset the baby. It is important not to be bothered by irksome restrictions, but to live a reasonable life—" moderation in all things " should be your motto.

Breast milk is rarely affected by any food you may take, so to deny yourself fresh fruit or salads on the grounds that they will upset the baby is absurd. Similarly with any tonics or sedatives you may need : there is little evidence that they are ever transmitted in breast milk in sufficient quantity to harm the baby.

Sleep and Rest. To breast-feed a baby successfully, you must have rest during the day and a good sleep at night. You will find it difficult to get enough sleep. Perhaps you will be woken by the baby crying at night, and when you have comforted him and he has dropped off to sleep again you will feel too cold to sleep any more. Perhaps you will lie awake at night worried because the baby is gaining weight slowly or is often sick. If you have had a bad night you should try to get some rest during the day by lying down on your bed after the 2 p.m. feed, or, if you prefer it, by putting up your feet on the sofa and reading a magazine. In hot, sunshiny weather, a deck chair in the garden under the shade of the trees will give you rest. Many women concentrate too much on the baby. Their emotions are too tense and strung up, they defeat themselves by their own efforts, by their strictness in keeping to a definite routine with a machine-like efficiency. This is a mistake. A mother should learn to take the baby in her stride, remembering that her life should be divided into three : one part she owes to her baby, one part to her husband, and one part to herself.

Fresh Air and Exercise. Breast-feeding is easiest for the mother living a simple, out-of-doors life. Milk is derived from blood and unless your circulation is free and abounding you can produce milk only with difficulty. Fresh air and exercise are the greatest stimulants of the circulation, so any exercise to which you are accustomed is good—golf, riding, tennis, dancing, rowing, swimming, gardening, etc.—provided that it is taken in moderation. Walking is often recommended, but is, I think, not so valuable ; there is less mental recreation in it, and, secondly, experience shows that exercise in which the *arms* are used is better for encouraging the flow of breast milk. One mother's supply of breast milk was nearly doubled after she had broomed out two or three rooms vigorously during her spring cleaning. The bedroom windows should be wide open at night, summer and winter, and even if the weather is bad you should make a point of getting all the fresh air you can.

Freedom from Worry. No woman can breast-feed a baby successfully if she is worried and unhappy. The mother with her first baby is often full of groundless fears, fostered by the thoughtless and tactless remarks of friends and relatives. She is young and inexperienced : to her the baby seems a delicate and fragile thing, a creature of inexplicable whims, easily upset, easily made ill by wrong treatment. What she needs at this time is help and reassurance that she may deal with her baby calmly and with confidence. Babies are really quite strong little creatures ; they will grow and thrive with practically any reasonable treatment. A quiet mind and an easy acceptance of the task in hand is the first step to success.

Test-weighing

To find out how much breast milk a baby has taken at a feed it is necessary to weigh him before and after the feed and to note the difference. This represents the amount of milk taken. The baby is usually weighed fully clothed and wearing napkins ; the napkins must be left on throughout the test-feed and weighed with the baby afterwards, whether dirty or not. It is important to use an accurate pair of scales. Spring balances are unreliable : the only suitable

scales are the ones with weights, and these should be delicate enough to weigh less than an eighth of an ounce. Several firms make them, but they are expensive and it is usually best to hire a pair.*

It is important that the baby should be test-weighed at *all* the feeds for 24 hours, for the amount taken at the feeds varies considerably during the day. The following figures taken from a baby 6 weeks old, weighing 10 lb., illustrates this point :—

	6 a.m.	10 a.m.	2 p.m.	6 p.m.	10 p.m.	Total
Tuesday .	7 oz.	5 oz.	5 oz.	3½ oz.	4½ oz.	25 oz.
Wednesday	6½ oz.	6½ oz.	3½ oz.	5 oz.	4½ oz.	25½ oz.
Thursday .	7¾ oz.	4 oz.	4½ oz.	4¾ oz.	4 oz.	25 oz.

Here, although the individual feeds vary from 4½ oz. to 7¾ oz. it will be seen that the total for the day remains remarkably constant. Too much stress, then, must not be placed on the results of any one test-feed: it is essential to take a longer view—indeed, it is often best to insist on test-weighing for all feeds for 3 days. Even then the results need proper consideration. For example, if a baby is starting a cold, he may take the breast poorly for a day or two and the test-feeds show a decided drop; to conclude that the breast milk is failing and so to give extra milk would be a mistake, for once the cold is over the child will take his normal amounts once more.

Most children's doctors agree that as a general rule the baby needs 2½ oz. of breast milk daily for every pound of his weight, *i.e.*, an 8 lb. baby needs 8 × 2½, or 20 oz. daily; a 10½ lb. baby needs 10½ × 2½, or 26¼ oz. daily. It is wise, however, to allow a healthy baby a little more than this, and to feed him as for a child ½–1 lb. heavier, *i.e.*, if he weighs 8 lb., feed him as for a child of 8½ to 9 lb., and allow him 21¼–22½ oz. daily. Too strict attention is often paid to the baby's *theoretical* requirements. The baby is whisked away from the breast after, let us say, 7 minutes on each side because theoretically he should have 4 oz. of milk per feed,

* Test-feeding scales can be hired from Mellin's Food Ltd., or from Garrould's of 150 Edgware Road, London, W.2.

and he has taken his 4 oz. in 14 minutes. The nurse may be full of scientific pride but the baby is still hungry. Too little allowance has been made for his natural appetite. As we have seen in the above table, at the 6 a.m. feed on Tuesday the baby took 7 oz., at the 6 p.m. feed only 3½ oz., yet that baby was thriving. Possibly at 6 p.m. he was feeling cross and irritable because the weather was hot, while in the cool of the morning, after a good night's sleep, he had a tremendous appetite and took well.

Test-weighing often shows that the amount of breast milk diminishes steadily during the day. The usual explanation is that after a good night's rest the mother has a plentiful supply, but as the day wears on the supply diminishes as she becomes more and more tired. In such a case the mother *must* have a rest after lunch, either in bed or on a couch with her feet up. Extra help in the house will take some of the responsibilities off her shoulders and give her more time to herself; for her greatest difficulty, as we have already seen, is to get enough sleep during the breast-feeding period.

Test-weighing takes up a good deal of time, so if the baby is doing well and taking enough milk it is unwise to continue with it for many days at a stretch, for constant weighing leads to an anxious frame of mind, a pre-occupation with what after all should be a straightforward affair for most babies. Test-weighing over 3 consecutive days and watching two or three breast-feeds will give the doctor all the information he needs.

The Feeding of Twins

Twins of the same sex as a rule weigh about the same and progress alike; but twins of opposite sexes may differ enormously, one baby being large and healthy, the other small and feeble. If the twins are of equal weight and strength they should both be breast-fed. Baby A should be put to the right breast for 5–10 minutes, then Baby B should be put to the left breast for the same time. (In practice most mothers are unable to feed babies *simultaneously* at the breast.) Both babies should be test-weighed from time to time, as they will probably need an ounce or two of milk mixture after the breast-feeds. At the next feed Baby A is

put to the left breast, Baby B to the right, otherwise one twin may get used to the position on one side and refuse the other. Another plan is to give breast and bottle alternately on these lines :—

	Baby A	Baby B
6 a.m.	Breast.	Bottle.
9 a.m.	Bottle.	Breast.
12 noon	Breast.	Bottle.
3 p.m.	Bottle.	Breast.
6 p.m.	Breast.	Bottle.
10 p.m.	Bottle.	Breast.

If extra milk has to be given, the simplest mixture to use, and one that in practice gives excellent results, is equal parts of boiled milk and water with 2 level dessertspoons of brown sugar or dextrimaltose (see p. 90) to the pint of mixture. As to the amount necessary, this can only be determined accurately by test-weighing. If no scales are available, offer each baby ½–1 oz. of milk mixture after the breast-feeds, and increase the amount cautiously when it is obvious that the babies are digesting it perfectly well and could take more.

If one twin is much smaller and feebler than the other put him to the breast first and let the larger one take what he can afterwards, followed by a milk mixture. This helps to keep up the supply of breast milk, which might otherwise fail, if the weaker twin only was put to the breast.

The mother of twins will need much more rest and sleep if she is to breast-feed both babies satisfactorily, so extra help in the house will almost certainly be necessary. And she will need more food—indeed many mothers need almost double rations, and extra milk, sometimes as much as 2–3 quarts of milk a day.

Weaning the Baby from the Breast

We have already seen that no mother with serious disease should undertake breast-feeding, but that otherwise all

mothers should attempt to breast-feed their babies for at least 6 months. We have now to discuss the sensible reasons for weaning a baby from the breast *before* the 6 months are up, and, secondly, how and when this weaning should be carried out.

Weaning before the age of 6 months should only be advised :—

1. If the mother develops a serious illness ;
2. If she has to earn a living ;
3. If she becomes pregnant again ;
4. If she is getting tired out, mentally and physically, and worried—perhaps over money matters, perhaps over her husband losing his job.

The present tendency for a young mother to think she has done her duty if she breast-feeds her baby for one month, possibly two, is to be deplored. The early months should be a pleasure, the time when she can be everything to her child. To give up because she feels a little tired—sometimes the right word is " bored "—is a pity, for the chance will not come again. Give the first feed when the baby wakens—6.30, 7.0, 7.30 a.m., whatever it may be—the next three feeds at 10 a.m., 2 p.m., and 6 p.m., and give the last feed any time from 10 p.m., up till midnight. This leaves you free to go out in the evening—to a dinner, a dance or a cinema. If you have a nurse she can give the baby a bottle occasionally instead of the 2 p.m. breast-feed ; this arrangement will make you free to get away for the best part of the day down into the country, or up to town for the sales. Take the baby in your stride, for you have only one life to live.

A further point : there is no such thing as " breast milk of poor quality." Breast milk may look thin and bluish beside rich cow's milk or some of the much advertised dried and humanised milks ; but breast milk *is always* best for babies.

The baby should not be weaned because the mother's periods have returned, though occasionally a baby may grizzle and seem a little upset on the first day of the period. Test-feeding often shows that the supply of breast milk has diminished temporarily, but this rights itself in a day or two.

If he has to be weaned, do it gradually, as described on p. 103.

Finally, I want to emphasise once more the extreme importance of breast-feeding. Nothing can make up for it, nothing so much ensures the steady progress of the baby during the first year of his life.

CHAPTER VII

DIFFICULTIES IN BREAST-FEEDING

WHILE many teach that breast-feeding is natural to women and easy to carry out, few mention the undoubted truth that for many women it is far from easy. The mother is already tired out with her labour, she has gone through the stage of pride and delight and now is suffering from a reaction in which she is weary and disillusioned and often on the verge of tears, and a hungry baby crying day and night is just the last straw. Labour is a time of great emotional stress, particularly for a mother with her first baby, and the early days afterwards—the 3rd day up to the end of the 3rd week—are often far more trying to her than the whole 9 months of pregnancy. These difficult breast-feeding cases need much patience, sympathy and insight on the part of doctor and nurse, otherwise the mother is apt to wean the baby in despair ; but given time and perseverance, there are very few difficulties that cannot be overcome. These difficulties in breast-feeding may be divided into three main groups :—

1. The baby that takes the breast poorly—the " breast-shy " baby.
2. Troubles that affect the mother's breast.
3. A combination of both.

Thorough test-weighing (see p. 58) is essential, for it is the only certain way of knowing if the baby is getting the right amount of milk. An inexperienced mother may easily jump to the conclusion that since the baby has gone off to sleep quietly after his feed he is quite satisfied with what he has taken ; or she may think that he is being overfed since he has a motion every time he is put to the breast. Only the scales will show what is the truth. A fractional test-feed is useful in discriminating between the baby that takes the breast poorly and the mother with too little milk. Taking an ordinary breast-feed lasting 15 minutes, instead of weigh-

ing the baby before and after his feed, he is weighed after each 5 minutes of the feed. If there is a poor supply the baby will get practically all the milk there is in the breast during the first 5 minutes, little or none during the next 5 minutes, probably none during the last 5 minutes; while if he is a baby that takes poorly he will take about the same amount in each 5 minutes. Occasionally test-feeding on each breast independently gives valuable information. For example, this may show that while the baby is taking 1½ oz. from the left breast, from the right he gets only ¼ oz. The reason is often this. A woman usually carries her baby on the left arm, leaving the right arm free to carry purse, parcels, and so on. The baby, from being constantly carried on the left arm, learns to lie more comfortably on that side, and so take the breast better; while he feels awkward and ill at ease on the right side and so takes that breast poorly. The treatment is straightforward: carry the baby more on the right arm and put him to the right breast first at each feed until both breasts are properly balanced up.

The Baby that Takes the Breast Poorly

There are five common difficulties:—

(*a*) The baby only refuses an occasional feed: others he takes well.

(*b*) The baby is sleepy, takes poorly, and does not empty the breast.

(*c*) The baby starts off well, then, after satisfying his immediate thirst, slacks off and just plays about.

(*d*) The baby is hungry and cries between his feeds, but when put to the breast refuses it utterly; or stops after a minute or two, lets go and wails miserably.

(*e*) The baby takes the breast greedily, swallowing the milk in great gulps; but after a minute or two becomes restless and uncomfortable and brings up large amounts of wind, often with some of his feed.

(*a*) Which is the feed that the baby is apt to refuse? Most babies take their first feed in the morning well, for they are hungry after the long night's rest; the 10 a.m. feed is also taken well as a rule, for the baby has been thoroughly aroused and freshened by his morning bath. The 2 p.m.,

6 p.m. and 10 p.m. feeds, however, may be refused if the baby is put to the breast drowsy and half asleep. Many babies need to be roused a little before the feed is due, so that they are put to the breast wide awake and full of activity. If the baby refuses a feed, it is best to offer him a little cold boiled water and to wait quietly till the next feed. Due allowance must always be made for the baby's natural appetite. For instance, in hot summer weather the baby may feel too hot and uncomfortable to take the breast properly: if so, give him a cool sponge, put him in a cooler place and next time he will probably take well. Milk should always be regarded as a food, not as a drink.

(*b*) See that the baby is thoroughly awake before the feed. If he is a placid, lethargic baby, very difficult to rouse, first make sure he is having plenty of fresh air, that he is not over-clothed, that the bedclothes are not too warm. If you are satisfied about this, take off his clothes just before the feed is due and let him lie on your lap naked. The contact of cool air on his skin will probably waken him thoroughly, and he will stretch out his arms and legs and begin to kick. After a minute or two get his clothes on again and put him to the breast. If dressing and undressing fails to rouse him properly, sponge him all over with a little cold water while he is lying on your lap, dry him briskly with a rough towel, and dress him again. If, in spite of all this, he is still very sleepy, consult your doctor: possibly the baby is backward or needs thyroid extract.

(*c*) Make sure the baby is not being over-stimulated. One baby will turn his head at the slightest sound and stop feeding; another will go on sucking away steadily without a pause. Don't talk to him or play with him when he is at the breast, but let him get on with his feed seriously. Leave him quietly by himself before his feeds and don't allow visitors to play with him then. Test-feed him; he may have emptied the breast in the first few minutes and be slacking off and playing about simply because there is no more milk left.

(*d*) First test-weigh the baby and find out if he is being underfed; if this proves to be the case, see p. 73 for the re-establishment of breast-feeding. Then make sure that the baby can breathe properly; if he has a cold or if there

is any nasal obstruction he may find it difficult, if not impossible, to breathe while taking the breast. The best way to treat this is to clean out his nose thoroughly half an hour before each breast-feed with swabs of cotton wool dipped in boracic solution (3 per cent.), and then, holding him head downwards on your lap, to put in some nasal drops. A good solution is adrenalin (1 in 1,000), ½ oz. with boracic solution (3 per cent.), 1 oz.; 3 drops may be inserted 3 to 4 times daily with a nasal dropper.

Another possibility is that the baby has a sore mouth or tongue; if so, swab his mouth out very gently with glycerine and borax before each feed, and give him expressed breast milk or a cow's milk mixture with a spoon for a day or two until his mouth has completely recovered.

In many cases the trouble lies with the mother. Full of groundless fears and with her nerves on edge, she is sleeping badly and is in consequence jumpy and irritable: the baby is quick to sense this atmosphere of fear and uncertainty and reacts with nervous unrest. The best plan then is to engage a really good nurse for a week or two. A quiet, sensible woman can work wonders in this sort of situation. She can relieve the mother of the daily care of the child; she can insist on the mother having plenty of sleep and reasonable exercise; she can deal quietly and calmly with the child and (often an important point) with the relatives; and in a short space of time she can change the whole atmosphere of the house into one of peace and confidence. At first she must be present at every breast-feed, for the mother *must* learn to relax her whole body in breast-feeding, otherwise the muscles of the breast become tense and milk simply cannot flow. Stress and strain produce subtle changes in breast milk, and it is doubtful whether milk produced under these conditions will be of good quality; indeed, in bad cases weaning the baby to a cow's milk mixture may be advisable. Later on the nurse should accustom the mother to dealing with the baby entirely alone, but this change must be done gradually, so that the mother regains her self-confidence. Such nurses are all too few, but when found they are worth their weight in gold.

(*c*) If the baby is restless when feeding, then lets go and cries and cannot be persuaded to take the breast again, he is

probably suffering from wind. All babies when they take the breast swallow down air, usually about one-third air to two-thirds milk, though if the baby is a nervous, restless creature he may easily gulp down as much air as milk. Now " wind " is nothing more or less than this swallowed air. If the baby is sat up well after a feed and his back gently patted he will bring up this swallowed air ; but if he fails to bring it up and it is carried on with the milk through the stomach and intestines, it gives rise to colicky pains and then we say the child has " wind." Wind has nothing to do with fermentation—it can occur with *any* type of feeding, good or bad. Sit the baby well up after every breast-feed and pat his back gently. Don't jog the baby up and down, but keep him still. Some babies are best laid on their stomachs ; in others, pressure in this position may cause vomiting of milk together with air. If the baby is inclined to gulp his feeds down too quickly, take the edge off his appetite by giving him 2 or 3 teaspoons of boiled water 10–15 minutes before his feeds. If this fails, the best plan is to get the baby a mild sedative half an hour before every feed to quieten him down and help him to take the breast more gently. Small doses of chloral (1 grain in a teaspoonful of syrup) given regularly for a week or two often work extremely well ; but you will need a doctor's prescription and supervision for this.

Troubles Affecting the Mother's Breast

We have now to consider various troubles affecting the mother's breast that make breast-feeding difficult, if not impossible.

Abnormal Shape and Size of the Nipples. Antenatal treatment with glass nipple shields (see pp. 10–11) and tuition in breast massage and expression should have done a great deal to improve the nipples. As noted above, the baby does not take only the nipple into his mouth when he is having a feed—he takes quite a big mouthful of breast as well : so if the nipples are not badly depressed and the baby is a powerful feeder, there may be little difficulty with breast-feeding.

You may find that glass nipple shields worn daily *after* the birth of the baby help to draw out the nipples, and breast-feeding becomes progressively more easy.

Fissures and Cracks. Fissures and cracks in the nipples are made by the baby. In normal breast-feeding he takes a section of the breast quite deeply into his mouth so that the nipple comes to lie, not against his gums, but right at the back of his mouth ; but if the breast tension is increased by sudden engorgement on the 3rd and 4th day, it is impossible for him to grasp more than the nipple, and it does not take more than a few feeds before he has ruined the mucous membrane with his vigorous chewing. In other words, the prevention of cracks and fissures lies in the prevention of engorgement. Never put the baby to an overfilled breast.

Allowing the baby to suck too long and too vigorously on the 1st and 2nd days is liable to do harm : all feeds on these days should be brief—a minute or two on each side is ample, until the milk is coming in, and then the time can be gradually increased. The baby should *never* be allowed to sleep with the breast in his mouth. If he falls asleep almost before he has finished a feed, remove him gently from the breast and put him down in his cot.

Keep the nipples absolutely dry and clean, and don't apply spirit to harden them—it will not prevent a fissure. Especial care is necessary with fair women with delicate transparent skins, for they are especially liable to develop fissures.

What is to be done if breast-feeding is becoming painful and a fissure is likely ? This is really a medical problem, not one that can be solved by the unaided mother : but since this book may be read by doctors and nurses, here are the details of treatment :—

(1) Remove the baby at once from the affected breast, and don't put him back until the nipple has completely healed. It is better to err on the safe side, and put the baby back to the breast rather later than seems necessary. In the meantime it may be possible to feed the baby on the opposite breast alone, or it may be necessary to supplement his breast-feeds temporarily with a few bottles of a weak mixture of half-cream dried milk.

(2) Massage the affected breast and express the milk several times a day.

(3) Support the breast with a binder and have the

mother lying flat to prevent drag from the weight of the breast.

(4) Hot fomentations are most comforting.

(5) Stilboestrol is an excellent drug for relieving congestion : 15–20 mgm. may be given by mouth 4-hourly until the breast is obviously less congested. Usually 3–4 doses will be enough. Sedatives will relieve pain and give sleep.

(6) Touch the nipple with a little Friar's Balsam. Once a small crack or abrasion has formed it is best painted with a 1 per cent. watery solution of gentian violet several times a day.

(7) Hand expression of breast milk is very much better than the use of a breast pump, which is often painful to the mother.

Inflammation of the Breast and Breast Abscess. Almost invariably these are due to untreated cracks and fissures through which various germs (streptococci, staphylococci) have gained entrance. Prompt handling of cracks and fissures on the lines outlined above should prevent the vast majority of abscesses. If an abscess has formed it will need to be drained. This is however a purely medical problem, and it is outside the scope of this book to consider it here : though I might perhaps mention that Penicillin has been used with excellent results.

Sudden Failure of Breast Milk. Severe emotions, such as anger, fear and grief, or a sudden shock, may cause the mother to lose her milk. In many cases, however, it is not the production of breast milk that has failed : milk is there in the breast, but it cannot flow because the muscles surrounding the nipples are in a state of spasm, due to nervous influences. Sympathy and tact should soon re-establish the flow.

The Leaking Breast. Milk may flow from one breast when the baby is put to the other : this is a natural and normal condition and requires no treatment. But sometimes the mother is troubled by breasts that go on flowing long after the feed is over : this is due usually to loss of tone in the muscles of the breast and it can be put right quite simply by hot and cold sponging twice a day, with perhaps a little

breast massage. Breasts that leak are by no means a sign that the mother has too much milk.

Underfeeding and Overfeeding

Underfeeding on the breast is very common. Often the milk comes in quite well and the mother will say that she "feels the draught," but once up again and going about her household duties the flow gradually slackens and then stops. Sometimes she can tell quite easily that her milk is failing, sometimes she is quite unconscious of it and will continue to breast-feed her baby, giving him perhaps only half or two-thirds of his requirements for many weeks on end. Now it should be quite simple to recognise when a baby is being underfed :—

1. He is thin and underweight. Some mothers think the dark influences of heredity are responsible for this : "He takes after his father and he was always thin," is thought to be sufficient explanation for the baby's lack of condition. Or the mother will admit that her baby is thin, but, she adds proudly, "he is wiry." It is always wrong for a baby to be thin. Though some may be built with sturdy frames, others on more slender lines, *all* babies should be of a hale and strong complexion, firm and muscular and active, with bodies nicely rounded with fat (see p. 84).

2. The underfed breast-fed baby usually has infrequent motions ; instead of one or two motions a day, he passes a small motion perhaps every 3rd or 4th day, often dark green in colour and mixed with a little mucus. But this is not always so—sometimes underfed babies will pass their motions as regularly as ever, sometimes even more frequently ; indeed it is not uncommon for a baby to pass a motion during or immediately after every breast-feed. This is sometimes called "diarrhœa" and it is thought to be due to over-feeding, so less time is allowed at the breast, with the result that the baby wastes even more rapidly. (For further remarks on this subject, see p. 80.)

3. He is usually listless and irritable. But some underfed breast-fed babies are quite placid and contented ; they sleep soundly day and night, they take the breast well and they rarely cry.

There are only two ways of telling if a breast-fed baby is getting enough milk: (1) By weighing him regularly every week and seeing that he gains a steady average of 5–6 oz. a week; and (2) by test-weighing (see p. 58). The mother should never judge by the appearance of the breast or by her sensations; she may think she has plenty of milk in the breast and the baby is taking it well, yet test-weighing will show at once that her supply is far too small. Sometimes she may think she has a good supply because milk runs from the breasts between the feeds, but this, as stated above, is usually due to lack of tone in the breasts and there may be very little milk present. Breast-feeding is best for babies, but not if the baby is underfed. It is most important that those who are the staunchest supporters of breast-feeding should see to it that breast-fed babies are fed to their full requirements.

As to treatment: re-establishment of breast-feeding is dealt with fully on p. 73. Meanwhile the baby should be test-weighed at all feeds and the deficit made up with a suitable milk mixture. The half-milk, half-water mixture, with added dextrimaltose recommended on p. 90, is quite suitable, though some doctors prefer a dried milk or humanised milk mixture. Supposing the baby is thin and weighs only 8 lb., and the results of test-weighing are as follows:—

6 *a.m.*	10 *a.m.*	2 *p.m.*	6 *p.m.*	10 *p.m.*
4 oz.	2½ oz.	1½ oz.	2 oz.	1½ oz.

The total for the day is 11½ oz. Now the healthy baby needs 2½ oz. of breast milk for every pound of his weight daily, *i.e.*, 20 oz. daily or 4 oz. at each feed. This child should then be breast-fed every 4 hours, test-weighed, and all feeds should be made up to 4 oz. with milk mixture. But he is thin and underweight and has to gain weight faster than the healthy baby, so after a few days he should be fed as if he were a 9 lb. baby—in other words, 22½ oz. should be given daily, or 4½ oz. at each feed. The plan is to give the baby the full requirements for a child of his weight and then to feed him as for a baby 1 lb. heavier.

Overfeeding, except in the first few days of life, is comparatively uncommon; troubles in breast-feeding are

certainly due far more to underfeeding than to overfeeding. The usual signs of overfeeding are that the baby tends to put on weight too quickly and that he is liable to be sick after his feeds. He may show signs of colic, restlessness and crying; he may pass too many motions. Again the only certain ways of telling if a baby is overfed or not are by weekly weighings, or by test-weighing. If these prove him to be overfed, feed him at longer intervals—*i.e.*, if he is being fed 3-hourly, change to 4-hourly feeds—and limit the time at the breast. Plenty of babies do not need more than 4 or 5 minutes on each side, sometimes even less; or the baby can be fed alternately at each breast. Don't jump to the conclusion that the breast milk disagrees with the baby: if the right quantity is given the child is sure to thrive.

The Re-establishment of Breast-feeding

Successful breast-feeding, as we have seen, depends upon the following factors:—

1. The will to breast-feed.
2. Regular emptying of the breasts.
3. Plenty of sleep and rest.
4. Plenty of fresh air.
5. Good food and drink.
6. Regular exercise.
7. A quiet mind.

Exactly the same principles apply as in the establishment of breast-feeding, so it is unnecessary to repeat here what has been written above. There are, however, one or two points that need discussion.

Supposing that the baby has *never* been put to the breast for the first 2–3 weeks of life, will it be possible for the mother to establish breast-feeding? Yes, if all the details of establishment are carried out faithfully. Figs. 2 and 3 are those of a baby, born by Cæsarean section, who had not been put to the breast for the first 5½ weeks, yet was fully re-established in 24 days. And this is by no means a record.

Case 1. David S. was admitted to the Mothercraft Training Home, Chelsea, on March 28, 1933. He was born by Cæsarean section at a country hospital on February 21, 1933: birth weight, 8 lb. 7 oz. *At the time of admission he was five weeks old and had*

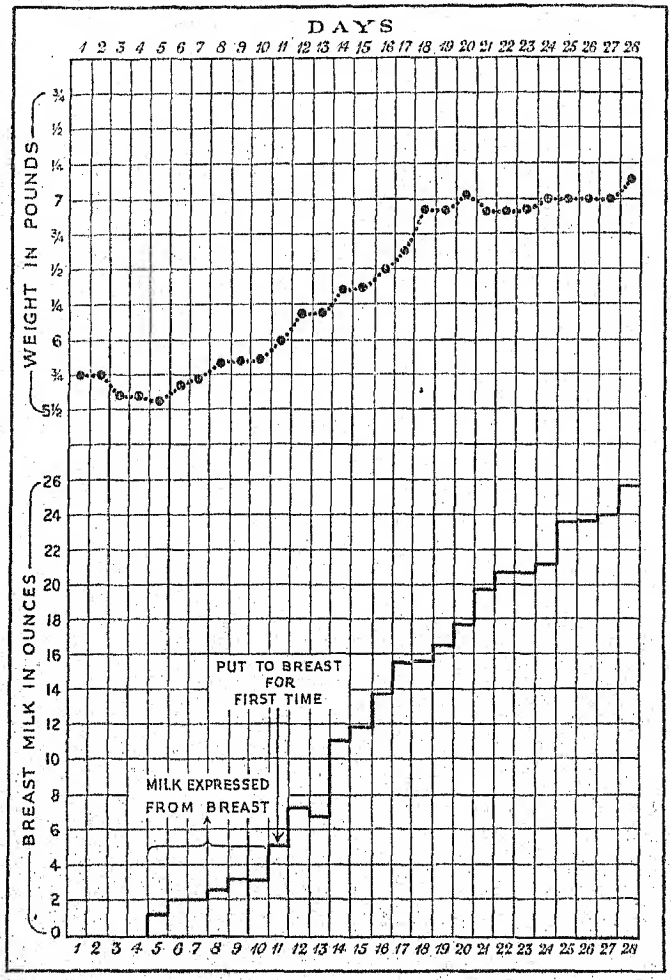


FIG. 2. David S. (see notes below). Note the slow but sure increase in breast milk from 1 oz. on the 5th day to 25¼ oz. on the 28th day; also the fact that the baby gained only 1 oz. in weight during the first week, although in the next weeks his gain was rapid.

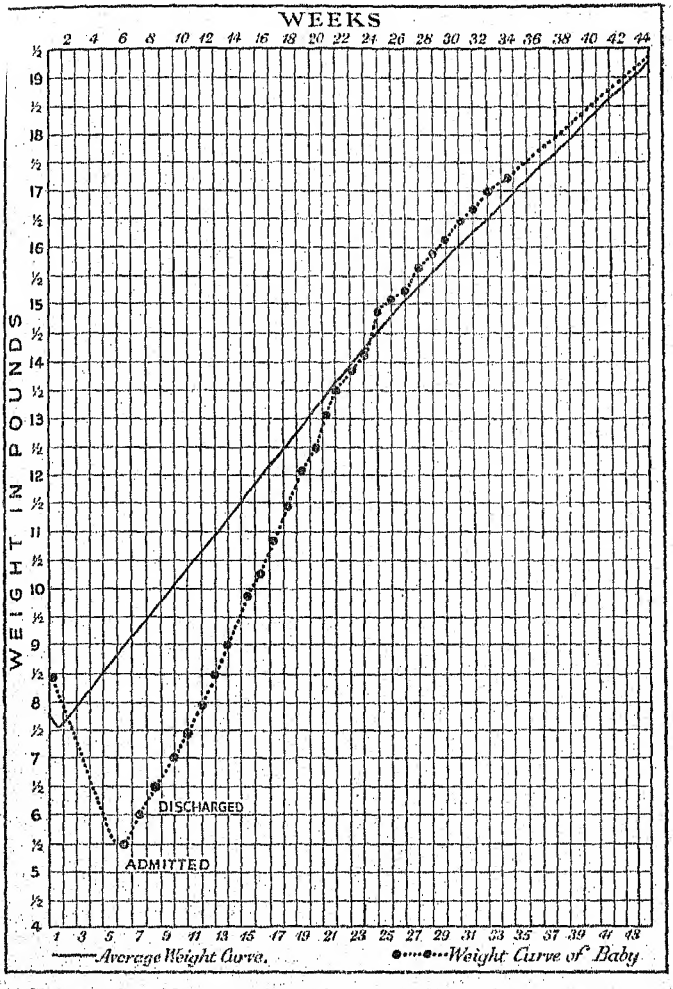


FIG. 8. David S. (see notes in text). Note that though on admission he was 4 lb. underweight, he had caught up to the normal in 4 months.

never been breast-fed, for it was thought impossible for a mother who had undergone Cæsarean section to feed her baby. And so he had been fed on various milk mixtures, none of which "agreed" with him. But on those he had lost weight rapidly, so finally, as he was getting desperately thin and wasted, the mother brought him up to London. Mother and baby were admitted at once. The baby was terribly wasted (weight 5 lb. 12 oz.), too weak even to take a bottle, and for several days it was doubtful whether he would survive. He was fed at first every two hours on expressed breast milk, obtained from another mother, and glucose solution. Meanwhile all the principles for the re-establishment of breast milk described above were carried out faithfully. Milk was expressed from the mother's breasts regularly every 3 hours; on the 5th day 1 oz. was obtained, on the 6th day 2⅛ oz., on the 9th day 3 oz. The baby was put to the breast for the first time on the 11th day after admission, the breast milk supply increased rapidly and *in one month* the child was being fully breast-fed (Fig. 2). Mother and baby were seen from time to time during the next 6 months. The baby continued to thrive exceedingly and by the age of 5 months was in splendid condition, over the average weight for his age and still fully breast-fed (Fig. 3).

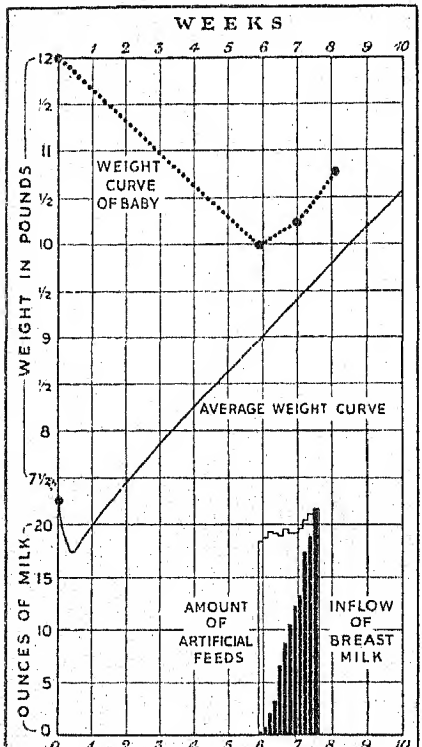


FIG. 4. Ronald S. (see notes in text).

Supposing the supply of breast milk fails after a few weeks, will it be possible to re-establish it after an interval of 2–3 weeks? Once more, yes. Fig. 4 is of such a case.

The baby had been breast-fed for 3½ weeks and then had been weaned "as it was found impossible for the mother to feed the child." Yet, in spite of the fact that the baby had not been put to the breast for 2½ weeks, re-establishment was complete in 12 days and the baby flourishing.

Case 2. Ronald S., a first child, born after prolonged labour and instrumental delivery, weighing 12 lb. He was admitted to the Violet Melchett Home, Chelsea, at the age of 6 weeks. The story was that for the first 3½ weeks the mother had breast-fed her baby every 4 hours, but she had become very tired and the breast-feeding had never gone ahead properly. She was told by a nurse that she would never be able to breast-feed her baby, and she was advised to wean him on to a dried milk mixture. This was given for 2 weeks, but now the baby began to be sick, so he was changed on to a condensed milk mixture; on this, however, he continued to be sick, so a few days later the mother brought the child to the Violet Melchett Home.

Re-establishment was advised, the baby was put back to the breast, and *within* 12 *days* he was being fully breast-fed (Fig. 4).

The ease with which re-establishment occurs depends upon the length of time the baby has been off the breast, the mother's determination to breast-feed, and her skill in carrying out the routine treatment. Courage and perseverance are of the first importance: a mother who is simply determined to feed her baby will succeed if she will but submit to the usual routine gladly and not be discouraged by temporary set-backs. She will need all the help and encouragement her doctor or nurse can give her at this time, particularly if she is in two minds whether she ought to breast-feed her baby or not. A mother has often begun breast-feeding grudgingly, yet in a week or two has been most thankful that her doctor has made her persist. If, however, she has an active distaste for breast-feeding, or is determined, perhaps for selfish reasons, not to breast-feed her baby, re-establishment is often very difficult, if not impossible, and it may be best to wean the child.

Regular feeding at 3-hourly or 4-hourly intervals is essential, and it is important that the breasts should be *thoroughly* emptied. If the baby sucks feebly, milk is left behind in the breast and this hinders the flow of more milk. When the baby has finished any milk that remains should be expressed.

The proper way to express breast milk is as follows: Grip the right breast firmly with the left hand and place the right thumb and forefinger above and below the nipple, just outside the darker part. Press the fingers deeply into the breast and slide them forward until they are just behind the nipple, ending the movement with a slight forward pull. It is quite unnecessary to touch the nipple: the massage should all be done *behind* the nipple. Continue till the breast is empty.

Rest and sleep are most important: it is usually impossible for a mother tired out with cares and worries to breast-feed her baby without extra help in the house. A temporary maid may solve the problem, or, if there are older children, a nurse to look after them. But in all re-establishment cases likely to be difficult it is advisable, if funds permit, to have a nurse specially trained in this kind of work.* She can take over the baby entirely, leaving the mother free to have plenty of sleep and gentle exercise; she can do all the test-weighing and she can give the mother what she needs so much, a firm background of sympathy and encouragement. Sometimes the relatives are difficult; for reasons of their own they try to discourage all attempts at breast-feeding. If this is the case, it may be best for the mother to take nurse and the baby down into the country for a week or two. There she will get rest, re-establishment will be quicker, and she can come home in a week or two with her baby fully on the breast. For poorer women, there are now in London several clinics where mother and baby can be admitted for re-establishment; this work is either done free or for a fee entirely in keeping with the family income.

One detail has not yet been described—hot and cold sponging to the breasts and breast massage. This is an excellent stimulant for the breasts: it increases their blood supply, it makes them supple, so that they give milk more readily. The best time for this treatment is just after the 10 a.m. and 6 p.m. feeds, but as long as it is done regularly twice a day the exact hour is not of great importance. It

* I should like to record here my profound admiration for the work of the nurses trained by the Mothercraft Training Society. Their practical knowledge on breast-feeding and the re-establishment of breast-feeding is really excellent.

should take in all about 15 to 20 minutes. It can be done either by the mother herself or, if she is anxious and tired out with breast-feeding, by a nurse. The right way to do it is this: Have before you a bowl of very hot and a bowl of very cold water, with a separate sponge in each. Sponge the right breast with hot water for a minute, then for a few seconds with cold: do this a dozen times or so, dry the breast carefully, then attend to the left breast. After this is done, massage the breasts with deep kneading movements from the edge towards the centre, using a little almond oil.

You will have noticed that no mention has been made of any drug or patent medicine for the re-establishment of breast-feeding. Are they of any use? The answer, despite the glowing advertisements of the manufacturers, is quite definitely, No. This is not to deny the value of iron or cod-liver oil if the mother is pale and thin after her confinement, or the value of a sedative if she is having sleepless nights. The truth is that, given determination and skilled treatment, 90–95 per cent. of mothers can re-establish breast-feeding on the principles outlined above without any special medicine whatever; that no medicine seems to quicken the rate of recovery; that no medicine to my knowledge will help the 5–10 per cent. of failures. Anything of course that increases the mother's sense of well-being is useful. Artificial sunlight, for example, tones up the whole body and most women like it, so it is well worth a trial, though I think it is of no value in the cases that ultimately fail.

To sum up, re-establishment depends on the determination to breast feed, together with a quiet, unhurried application of a few simple natural principles. The solution does not lie in a bottle of medicine, in restless change from one vitamin preparation to another in the hopes of finding "something that will suit" the mother. Breast-feeding is a natural function, so we must go back to Nature if things begin to go wrong.

If the baby has lost a great deal of weight, and is seriously ill, only breast milk may save his life: and it may take you too long to re-establish your own flow. In such a case it is better to swallow your pride and get breast milk from another mother. This can often be arranged through a

maternity hospital or through a local infant welfare centre; or through your doctor, who may have in his practice a mother who is successfully breast-feeding her own baby of, say, 4–5 months, and has plenty of milk to spare. Some of the author's most serious cases owe their lives to breast milk generously given by such mothers; and, furthermore, they have been proud and glad to do it.

The Breast-fed Baby's Motions: Diarrhœa and Constipation

The important point is never to judge the baby's health solely by the character of the motions that he passes. *Always judge a baby by his general condition.** "Normal" motions, which the text-books describe as being "yellow, salve-like, homogeneous and slightly acid, occurring once or twice a day," are seen in not more, probably, than 20–25 per cent. of healthy breast-fed babies. You will find breast-fed babies who are obviously thriving passing motions that are thin and watery, yellow or greenish in colour, motions that contain small curds or mucus, that are frequent or infrequent; but as long as the baby is doing well and putting on flesh at a proper rate you should disregard this. If, however, he is *not* doing well, you should test-weigh him at once.

Take the following case: The baby is restless and cries day and night, he takes the breast poorly, his weight curve is not satisfactory, he is troubled with repeated small vomits and frequent stools. All this has been going on for some time. On examining the last symptom in more detail, you find that the motions are passed in small spurts many times a day, they are thin and watery and greenish and contain little solid matter—in fact, if you were to add up the total amount of motion passed it would not exceed that passed by the normal breast-fed baby. The main difference is that in the normal baby the motion is passed once during the day, in this type of case several times. It is characteristic that the motion is passed when the baby is put to the breast, the mother usually saying that "the milk runs right through him." Actually it does nothing of the sort. These babies have a highly developed nervous system; when milk is taken

* See pp. 84–85.

into the stomach it sets off a train of nervous impulses throughout the whole length of the bowel, resulting in a motion. If the baby is doing well there is no need to worry over this ; but sometimes the baby's weight curve is unsatisfactory and he is far from well. When put to the breast he shows signs of distaste, pushing away the breast petulantly, crying and struggling. When he does take the breast he sucks greedily but spasmodically, letting the nipple fall now and again to cry, twist about uneasily, and double up his legs as if he had colicky abdominal pains. Regurgitation and vomiting are frequent and may occur after every feed in the severer cases. Sore buttocks, due to the frequency of the motions, are the rule.

The common mistake is to jump to the conclusion that these frequent motions are due to an inflammation of the intestinal tract and to treat the baby by giving him a dose of castor oil, followed by starvation for 12 hours ; or to think that this " diarrhœa " is due to overfeeding and so to cut down the time allowed at the breast. Test-weighing, however, often shows that the baby is taking the right amount of milk, perhaps rather less, and actually the baby is *not* putting on weight too quickly. Decreasing the time at the breast never improves the baby's general condition or lessens the diarrhœa ; on the contrary, things go from bad to worse. A baby may go for weeks grossly underfed without any of the symptoms for which the drastic curtailment of breast milk was ordered being altered in the slightest. On the other hand, the symptoms improve at once if *more* breast milk is given, from which one argues that the baby has an unusually high need for some constituent which is present in breast milk in small amounts only. Experiments have shown that gain in weight and general improvement occur at once if a bottle of cow's milk is given after a breast-feed, for there is three times more protein in cow's milk than in breast milk. Even better is the use of a pure protein powder, such as Plasmon or Casec : the dose is a teaspoonful two or three times a day dissolved in a little water or milk, given for a week or two. Purgatives, such as grey powders, calomel or castor oil, are not only useless but harmful.

This condition is quite different from that of the healthy

breast-fed baby who usually has 1–2 motions a day, but then one day suddenly loses his appetite, perhaps vomits and has several loose, green motions. Here the right treatment is to keep him warm in bed, to give him 1 or 2 water feeds and then to put him back to the breast. The symptoms may be due to a chill, to a bad cold or sore throat, or to some infection; so if the baby is not obviously better within 24 hours, send for a doctor.

Taking now constipation, a common story is as follows: The baby is taking the breast well, he never cries, he sleeps 12 hours at night, but he passes a motion only every second or third day unless purgatives are given. The motion is small and dark green, perhaps mixed with a little mucus. This the mother promptly treats with various purgatives—magnesia, liquid paraffin, olive oil, castor oil, etc.—often with scant success. Once again the right thing to do is to test-weigh the baby: the trouble is probably due to underfeeding. The baby urgently needs food for growth and nutrition, so if too little milk is given he will cling tenaciously to every drop he can get, leaving little or no residue to form a motion. Purgatives, then, are senseless: the right thing to do is to give complementary feeds of milk and water up to the full theoretical amount.

If the baby has infrequent motions, but test-weighing shows him to be having the right amount of breast milk, disregard the symptom. It never does the slightest harm for a baby to have a motion, let us say, every other day. Extra water should be given two or three times a day, and extra orange juice, prune juice or sieved prune pulp before the 2 p.m. feed; but in any case the motions will gradually become more regular as the baby gets on to solid food. Small doses of liquid paraffin are often useful.

To sum up, the essential point is to see that the baby's general condition is good, that he is getting enough breast milk, and that he is gaining steadily. If this is the case, you should disregard the motions entirely.

CHAPTER VIII

ARTIFICIAL FEEDING

The first principle in artificial feeding is that the child should thrive. There are many systems of infant feeding in vogue all over the world, systems differing widely in theory and in practice, yet mostly, it will be found, achieving about the same degree of success. The supporters of one system usually laud it to the skies while they heap scorn on all others; indeed, to the eye of a critical observer, many seem to attach more importance to the welfare of their system than to the welfare of the child. This is a deplorable state of affairs: babies cannot be rigidly confined to systems without serious risk of damage. Every baby has its own especial needs, its personal likes and dislikes, its fads and fancies, and what suits one does not necessarily suit another. This is a mistake which most of us have made at one time or another. A baby thrives on one method of infant feeding and we immediately apply that method indiscriminately to many other babies, perhaps with not quite such good results, though none of us would care to admit it. This chapter should be read with an open mind, with humour and with toleration. It is not original, it is certainly not the last word in infant feeding, but it has, in my opinion, two outstanding merits: it is extremely simple and it works well in actual practice. Many milk mixtures advocated to-day, such, for example, as whey, cream and lactose mixtures, or mixtures of milk and lime water, together with special preparations of dextrimaltose and emulsions of cod-liver oil, are difficult to prepare and expensive. This would be a secondary consideration if the results were superb, but they are not—in practice they are no whit better than the simple mixtures advocated here. Infant feeding is *not* a difficult and thorny subject, full of pitfalls for the unwary; it is really remarkably simple provided that care is taken over detail. Babies are accommodating young creatures, with a wide tolerance

for food, and they will thrive on almost any reasonable milk mixture, as long as it is properly prepared and properly given.

At this point we must stop and consider how we are to tell when a baby is thriving. The following are the main considerations :—

1. The baby should have a good layer of fat all over the body. If for any reason a baby loses weight he tends to lose fat first from the inside of the thighs, then from the buttocks, then from the abdomen and chest, finally from the face and cheeks. As he gains weight again, fat is put on in the reverse order—face, chest, abdomen, buttocks, thighs. From which two useful lessons may be learnt :—

(*a*) Never judge of a baby's condition simply by looking at his face. He may have lost most of the fat from his thighs, abdomen and chest and be very wasted, though his cheeks are still fat. If his face shows signs of wasting, then you may be sure the baby is seriously wasted and in urgent need of medical care. *Always have the baby undressed if you want to size up his general condition.*

(*b*) Never consider a baby has properly recovered from any wasting illness till his thighs are firm and fat again.

2. The baby should have a supple skin, tanned a healthy brown from frequent exposure to sun and air : his cheeks should be glowing, his eyes bright. If the skin is pinched up into a small fold it should feel smooth and elastic. Pallor of the skin and lips and harshness to the touch are quite abnormal. Cheeks like apples often go with pallor of the skin and are *not* always a sign of health : only too often they are a sign that the baby is being heavily overclothed.

3. The muscles should feel firm, compact and strong—in other words, the baby should have what doctors call "good muscular tone." There should be no suggestion of limpness, no lack of strength. Some babies have strong bones and powerful muscles ; others are built on more slender lines and have small bones and slighter muscles. The actual size of

muscles is of far less importance than their tone; a big muscle may be slack and wasted, a slender muscle firm and supple.

4. The baby should have a happy face and show an intelligent outlook on life. No baby can be regarded as thriving who is persistently crying, who sits about in a dull and lifeless fashion, who uses his hands with difficulty and is backward at learning how to sit and stand and walk.

5. The baby should show a stout resistance to disease. A baby with persistent coughs and colds is not thriving, however fit he may look.

6. He should gain regularly in weight and height. There is a chart on p. 34 of an *average* baby's weight and height. You will notice that an average birth weight is put down as 7 lb. 4 oz. What should your baby weigh and how tall should he be if he happens to be born weighing 6 lb. or perhaps 8½ lb. ? The answer is, that he should progress along a line roughly parallel to the two curves shown, but it is important not to be too hard and fast about this. Gain in weight is apt to be regarded by most mothers (and, it must be admitted, by many nurses and doctors) as the sole criterion for thriving. As long as their baby gains well they are happy. They do not stop to consider what weight is : one baby may put on muscle and bone and be fit and strong, another may be putting on useless rolls of fat around its middle and be getting lazy, dull and backward. The child must grow and he must put on weight ; but he must also, as we have seen above, have a good skin and good muscles, a normal intelligence and a stout resistance to disease. It is perfectly possible to bring up a baby without ever weighing him. *Judge a baby always by his general condition.*

The Choice of Milk

Let it be granted that the baby cannot be breast-fed ; what is the right milk to give instead ? In my opinion the baby should, whenever possible, be given fresh cow's milk : dried milks and humanised milks, condensed or evaporated milks should only be used (1) if the baby has to travel or go

to places where the milk supply is thoroughly bad; (2) if the home conditions are such that fresh milk cannot be kept properly. Fresh milk has the overwhelming advantage that it is fresh, while dried and humanised milks may be many months old. I believe strongly that freshness is a quality that no chemist can analyse, for it is beyond the reach of science; that it has the quality of life itself; that fresh milk and fresh food are essential for all young creatures that they may grow and thrive; that no amount of synthetic vitamins, no brilliance of advertisement, no glowing experimental reports, can make a stale food other than stale. If you cannot breast-feed your baby, give him the best fresh milk you can afford, and do not use tinned milk unless there are special reasons for it.

We have now to consider the various kinds of fresh milk available, and then to choose the one that suits the family purse.

Raw Milk

Tuberculin-tested Milk. Every cow in the herd has to be examined every 6 months to exclude tuberculosis, and every animal added to the herd has to be similarly tested before its milk can be used. Any cow found to be diseased is at once removed from the herd. The milk may be bottled away from the farm, in which case the address of the bottling establishment and the words "Tuberculin-tested Milk" appear on the bottle cap; or it may be bottled at the farm, when the word "certified" will also appear on the cap. The milk has to undergo various special tests from time to time to ensure of its purity.

Accredited Milk. The cows are *not* subjected to the regular tuberculosis testing, although no cow can be added to the herd that is known to have reacted positively to the tuberculin test, but the cows must be examined every 3 months instead of every 6 months. Any cow found to be diseased is at once removed from the herd. The bottle cap bears the address of the bottling establishment and the words "Accredited Milk," and if bottled at the place of production it may also bear the words "Farm Bottled." This milk also undergoes special tests to ensure of its purity.

If mother and child go down to live in the country and ordinary farm milk is used, it should always be boiled. Milk from a mixed herd is always preferable to milk from one cow, for if that cow be diseased the milk may be heavily infected, while pooling of the milk will lessen the risk of infection. Milk from Jersey or Alderney cows should be used with care. It is so rich in cream that many babies cannot take it without digestive upsets. Usually the first signs of trouble affect the skin, which becomes pale and harsh to the touch, with small patches of scurf. The baby's breath is bad, his appetite becomes capricious, the motions a little pale, and finally he may begin to have bouts of vomiting. If this should happen, stop *all* milk for a few days, then start him off again with his milk mixture much more diluted.

Pasteurised Milk. Pasteurised milk is milk heated to 140°–150° F. for 30 minutes, then cooled immediately to below 55° F. There are two sorts of pasteurised milk :—

(*a*) The tuberculin-tested milk, described above as the best and cleanest *raw* milk on the market, which has in addition been pasteurised ; and

(*b*) Pasteurised milk. This is a good quality milk, but it has not so high a standard as tuberculin-tested pasteurised milk. At the time of delivery to the customer it must not contain more than 100,000 bacteria per c.c. For a satisfactory pasteurised milk a good quality raw milk must first be obtained, for although pasteurisation ensures the safety of *all* milk, the keeping qualities of pasteurised dirty milk are much inferior to those of pasteurised clean milk. Pasteurisation cannot make bad milk into good milk ; but it provides added safety. There is no record of a milk-borne epidemic due to properly pasteurised milk, and there are no human experiments which demonstrate that pasteurised milk is less nutritive to the young child than is raw milk. Pasteurised milk has the great advantage that it is very much cheaper than tuberculin-tested or accredited milk.

Nursery milk and sterilised milk are mentioned only to be condemned. They have nothing whatever to commend them.

To sum up : If you can afford it, especially when the baby is young and living almost exclusively on milk, buy tuberculin-tested certified or tuberculin-tested pasteurised milk.

If these are beyond your means, buy accredited milk or pasteurised milk. If you live in the country, buy the best milk available in the district: milk from a large herd is always advisable.

Raw *v.* Boiled Milk

The golden rule is, *Boil all milk for babies.* Raw milk, however cleanly produced, is always a source of danger. The baby may be infected from two sources. Firstly, he may contract a disease from which the cow is suffering, of which the most important by far is tuberculosis. No mother who has ever visited a children's hospital and seen cases of tuberculosis affecting bones and joints, the spine, the glands of the neck or abdomen, can remain unconvinced of the necessity to boil all milk. Secondly, the baby may contract a disease from which the milker of the cow is suffering: epidemics of scarlet fever, septic tonsillitis and typhoid have been repeatedly traced to this source. Many babies and young children die every year in England from diseases due to infected milk, while hundreds of others are ill for many months with bone and joint tuberculosis, and even if they recover they are left only too often with permanent deformities. There is no scientific evidence to-day (1946) that the value of milk is to any extent lessened by boiling. Milk has a slightly different taste when boiled, and it loses most of its content of Vitamin C; but neither difference is important, for most children will drink boiled milk readily and the loss of Vitamin C is easily made up by giving the child a little orange juice every day. Boiled milk may, of course, become infected *after* boiling if it is left uncovered in a hot, dusty room, where there are many flies; so after boiling, milk should be poured into a clean jug, previously boiled, and covered up with a piece of butter muslin or with a saucer upside down.

Pasteurisation is intended to take the place of boiling, but in spite of what the large dairies may say, pasteurised milk cannot always be considered safe. For reasons given above, it is far the best plan to boil *all* milk for babies. If a mother is advised to boil one sort of milk and not to boil another, quite soon it will be found that milk is never boiled.

The Boiling of Milk

There are two methods of boiling milk.

Boiling in an Open Saucepan. The maximum temperature reached is 213·8° F. If the aim is to break up the curd thoroughly and make it more digestible, it should be boiled vigorously for 5 minutes.

Boiling in a Double Saucepan. With this method the maximum temperature reached is 210·2° F. For all practical purposes this may be regarded as boiled milk, although the milk does not actually boil: bacteria certainly are destroyed just as effectively.

Put the water into the double saucepan cold. Let the milk cook for half an hour after the water in the outer vessel has come to the boil. Take off the stove and fill the outer vessel with several changes of cold water to cool down the milk as quickly as possible.

Water, Barley Water and Lime Water

Ordinary boiled water should be used for making up the milk feeds. Barley water used to be given quite often, the idea being to reduce the size of the curd and thereby make the milk more digestible; but it was only useful when *whole* milk was given, and this is rarely given now in most countries till the child is 9 months old. Its use nowadays, therefore, has gone. As for lime water, it was given partly to reduce the size of the curd, partly to make sure that the baby had plenty of calcium (lime) so as to make strong bones. The amount of calcium in lime water, however, is trifling, and nowadays we rely on fresh fruit pulp and purees of vegetables, given from an early age, for the baby's supply of calcium. There is no question, to my mind, that the results of milk and water mixtures, plus early feeding with fruit pulp and vegetables, are infinitely superior to the older milk and lime water and cod-liver oil emulsions given almost exclusively for the first year.

The Choice of a Sugar

The simplest, cheapest and most practical sugar to use is ordinary brown Demerara sugar. The vast majority of babies will thrive on this sugar: a few, especially babies

that are weak, ill or underweight, or babies with a tendency to diarrhœa, do better on dextrimaltose.* Lactose (sugar of milk), cane sugar and glucose are rarely necessary. Theoretically one would expect lactose, the sugar present in breast milk, to be the most suitable, but in practice this is not so. I have seen many babies not doing well who thrived once the lactose in their milk mixtures had been replaced by ordinary brown sugar; I have yet to see the reverse. Many babies tend to be constipated if they are fed on milk mixtures containing lactose or glucose: this disappears when brown sugar is given instead.

The Milk Mixtures Recommended

If a milk mixture has to be given to a healthy baby in the first 4 weeks of life, start him off on the following mixture:—

Boiled milk	10 oz.
Boiled water . . .	10 oz.
Brown Demerara sugar . .	2 level dessertspoons.†

If the baby is very small, say, 5 or 5½ lb., it is usually best to give dextrimaltose for a week or two instead of Demerara sugar; the same amount is given—2 level dessertspoons to the pint. The baby can be changed back to Demerara sugar when it is quite certain that he is thriving.

These are the amounts necessary to make up a pint of milk mixture. How much should the healthy baby have? The rule *is*: 2½ oz. of this mixture every day for every pound of his weight. For example, if he weighs 7 lb., he needs $7 \times 2\frac{1}{2} = 17\frac{1}{2}$ oz. daily. Divide this total by 5 if he is to have 4-hourly feeds at 6 a.m., 10 a.m., 2 p.m., 6 p.m., 10 p.m.; he then gets 3½ oz. at each feed.

It is important to note that a baby fed on this mixture in the amounts recommended is being somewhat *underfed*. This

* Allen & Hanbury's No. 2 and Mead's No. 2 are recommended.

† It is clearly realised that it is "unscientific" to prescribe amounts of food in dessertspoons. As a matter of fact, although teaspoons and tablespoons vary enormously, most dessertspoons hold about the same amount, and anyway mothers will always use spoons in measuring out sugar. In dealing with normal babies extreme accuracy is not essential, for they have a wide margin of safety in dealing with food and drink.

has been done purposely. It is always wise when a baby is being changed to a new diet to give him at first a little less than he needs theoretically; later on the amount can be gradually increased when it is certain that he is taking the new mixture well. If then the baby does not gain steadily on the amount suggested, ¼–½ oz. more should be offered at each feed. It is extremely important that the baby should be offered his full requirements as soon as possible. *The great danger in infant feeding is underfeeding.* If two-thirds of the daily requirements are given, the baby will show considerable wasting within a month; if nine-tenths are given, within about 3 months. No mother would willingly starve her baby for a day, yet many unwittingly are partially starving their babies week after week. The rule is: if the baby seems well yet does not gain steadily on the milk mixture offered, give more.

Don't keep the baby on half milk and half water mixtures for longer than is absolutely necessary. When he has taken half milk and half water mixtures steadily for a week or two, change to a two-thirds milk and one-third water mixture:—

Boiled milk	14 oz.
Boiled water . . .	7 oz.
Brown Demerara sugar . .	2 level dessertspoons.

The same amounts should be given, viz., 2½ oz. daily for every pound of his weight, and again if he fails to gain steadily on this amount or if he is persistently hungry he should be given a little more.

If the baby is more than 1 month old he may be started off straight away on the two-thirds milk mixture. As stated above, it is wise to give him at first a little less than his theoretical requirements; 2–2½ oz. of the mixture per pound of body weight should be given daily at first, and this amount should be increased to 2½ oz. per pound when it is certain that the baby is digesting his feeds well and thriving.

It is impossible to make any definite statement as to how much food a baby needs. No author can do more than give general rules which apply to an average child. *Babies must be treated as individuals.* One may have been born weighing 10 lb. and need large amounts, another may have had a birth

weight of only 6 lb. and need far less; one baby may be active and energetic, another sluggish and weak, and so forth.

Some doctors recommend adding tablets of sodium citrate to the feeds, with the idea of lessening the size of the curd. In my experience there are very few cases in which this is necessary—certainly the use of citrate of soda as a routine is unnecessary.

Humanised Milks

Humanised milks (Humanised Cow and Gate, Humanised Trufood, Sunshine Glaxo, etc.) are simple to give and undoubtedly are useful in cases where ordinary fresh milk mixtures are not practical. The baby needs every day 2½ level measures of the milk powder—a measure is supplied with the tin—in 2½ oz. of boiled water for every pound of his weight. For example, if the baby weighs 9 lb. he needs :—

Humanised milk powder, *e.g.*, Sunshine Glaxo 22½ measures.
Boiled water . . . . . 22½ oz.

If 4-hourly feeds are given, this means 4½ oz. per feed. Don't make up humanised milk mixtures for the day, as recommended for fresh milk mixtures; it is much simpler to make up each feed as it is required, for the powder keeps perfectly in the tin.

Dried Milks

Dried milks (Cow and Gate, Glaxo, Trufood, etc.) are best given, *not* according to the directions on the tin, but in the following fashion. The baby needs each day for every pound of his weight :—

Dried milk powder (*e.g.*, Cow and Gate). 2 level measures.
Demerara sugar . . . . . ½ teaspoon.
Boiled water . . . . . 2½ oz.

So if, for example, the baby weighs 10 lb., he needs in the day :—

Dried milk powder . . . 20 measures.
Demerara sugar . . . 5 level teaspoons.
Boiled water . . . . 25 oz.

If fed 4-hourly, this means a feed of—

Dried milk powder . . .	4 measures.
Demerara sugar . . .	1 level teaspoon.
Boiled water	5 oz.

Most of the manufacturers make a half-cream dried milk and a full-cream dried milk. The full-cream dried milk is the one to use for a healthy baby; the half-cream brand is intended for delicate babies and babies with weak digestions and should only be given on a doctor's instructions. It is important not to give it for longer than is absolutely necessary, otherwise there is a serious risk of underfeeding.

Evaporated milks and condensed milks are quite unnecessary for healthy babies, and, in my opinion, have nothing to recommend them.

All babies fed on dried or humanised milks should be given fresh orange juice—*not* bottled orange juice—regularly every day, and, in addition, small doses of cod-liver oil (see p. 107).

You will probably be surprised that no mention so far has been made of patent foods. This is not an oversight. Patent foods may have their uses in treating babies whose digestions have been weakened by injudicious feeding, they may be useful as a temporary measure in difficult feeding cases; but, in my opinion, they should find no place in the diet of healthy children. They consist chiefly of starch and sugar, they require little or no chewing and on this diet babies rapidly gain weight, hence their popularity with mothers and nurses. But this weight is not natural and healthy, for the baby will be found to be putting on rolls of superfluous fat at a time when bone and muscle development is all-important. Patent foods tend to crowd out of the baby's diet other foods, such as fresh fruit and vegetables, which are of vastly greater importance. Do not therefore be enticed by glowing advertisements into using these patent foods: keep your baby on fresh food.

Some manufacturers now advertise "Follow-on" foods for babies, to be given in addition to their diets from the age of 10 months up to 2 years. These mostly contain sugar and starch, with the addition, it is said, of all manner of vitamins,

iron, phosphorus, calcium, etc. For similar reasons these should be avoided.

Bottles and Teats

Upright 8 oz. bottles are the most satisfactory. They have several advantages over the boat-shaped bottles: (1) There is only the teat to keep clean; (2) The milk feeds can be made up for the day and stood up in a rack; (3) The bottle can be stood upright in a jug of warm water, so it is much easier to give the feed at the right temperature. Maw's upright bottles or Pyrex bottles made of heat-resisting glass can both be recommended.

The right teat to use is the biggest one that the baby will take comfortably: there are many good makes.

How to Prepare the Milk Feeds

Make up the feeds for 24 hours after the baby has had his 10 a.m. feed and is having his morning sleep. If you can afford it, it is a good plan to buy a wire rack and 6 bottles, for this arrangement is so much more simple and satisfactory. Keep a special place in the pantry for bottles, teats, etc., and spread a clean towel over the whole when not in use.

To prepare the milk feeds, first make sure that your hands are quite clean. Measure out the right amount of milk for the day and bring it to the boil in a saucepan. Put on another saucepan full of water from the cold water tap and bring this water to the boil. Pour the right amount of boiled water into a quart jug, add the sugar and boiled milk and stir thoroughly.

If you have several feeding bottles, fill them with the right amount of milk mixture for each feed, put them in a cool place and cover them with a clean towel or a piece of clean muslin; otherwise, keep the milk mixture for the day in a quart jug, covered up and in a cool place.

If the baby is to have a dried milk mixture, it is best to make up the mixture for each feed as required. Add the requisite number of measures of milk powder to boiling water, stir thoroughly and fill the feeding bottle. Allow to cool.

All milk feeds for babies should be given at a temperature

of about 100° F. If a baby does not finish a feed, what is left should not be kept for the next feed.

After a feed, rinse the bottle thoroughly and stand it upside down to drain. Turn the teat inside out, rub it well with salt, then rinse it under the cold tap. In the morning wash out the bottles with a bottle brush and plenty of soapy water, rinse them in hot water, put them in a pan of water, bring them to the boil and let them boil for 5–10 minutes. Allow them to cool, then drain by standing them upside down. Scald the teats every morning by pouring boiling water over them, and stand them to drain in a saucer covered over with a cup. Never leave them in water.

How to Give a Bottle

Sit in a low chair and hold the baby in a comfortable position on your lap. Keep the bottle tilted so that the neck is always full of milk, and when the baby has had a few good pulls remove the teat gently from his mouth and give him time to take a few breaths. Make sure that the hole in the teat is the right size : if so, milk should drop out of the bottle when held upside down at the rate of about a drop a second ; if it does not, the hole should be slightly enlarged. (To enlarge the hole in a teat, push a stout darning needle, eye downwards, into a cork, then using the cork as a handle heat the point of the needle in a match flame. When red hot, push the needle quickly through the hole in the teat.) Don't let the baby take the bottle too fast. A full feed should take 15–20 minutes. If he tends to gobble, give him a few teaspoons of boiled water before the feed to take the edge off his appetite and force him to go slow with the bottle. Never leave him to take his bottle in his cot. He may drop off to sleep and allow the milk to get cold ; he may tilt the bottle so that he sucks down air instead of milk ; he may let the bottle fall from his mouth. Don't talk to him during a feed, but let him get on quietly with the work in hand. When the feed is over, hold him up over your shoulder for a minute or two and pat his back gently to bring up the air, then put him back in his cot on his side, tuck him up and leave him quite alone.

CHAPTER IX

EARLY MIXED FEEDING

WHEN the baby is 4 or 5 months old, and weighs 14 to 15 lb., regardless of whether he is breast-fed or bottle-fed, it is wise to begin to give foods other than milk, such foods as fruit pulp, vegetables sieved or well mashed up, and yolk of egg. There are several reasons for this. (1) Iron is essential for the proper formation of blood. In the first few months of life the baby derives his daily supply of iron largely from the iron stored up in his body during the last month or two of pregnancy. Now all milk is poor in iron, so if a milk diet is given exclusively for many months there is a tendency for the baby to develop anæmia. If small amounts of fruit, vegetables and egg yolk are given from an early age the baby will get all the iron he needs. (Incidentally it may be remarked that young animals instinctively choose green, iron-containing foods at an early age. Man is the only creature that drinks large amounts of milk long after he is weaned.) (2) Vegetables, fruits and egg yolk contain plenty of the mineral salts and vitamins necessary for growth. (3) If the baby gets small amounts of these foods from an early age he is, as it were, being "weaned" gradually over many months. (The proper meaning of the word "to wean" is *not* to take away from the breast, a sense in which it is commonly used: to wean a child really means to accustom him to something new.) Twenty years ago doctors used to recommend that a baby should be given nothing but the breast or a cow's milk mixture for the first 9 months of life. All sorts of difficulties then arose when the baby was given solid food for the first time. One would refuse vegetables, another broth, a third his rusk and butter, and they carried on the hunger strike so well that often the mother was forced in desperation to put the baby back to the breast. It was common to hear the mother complain "My child won't touch greens"; but nowadays, with the plan of getting the baby accustomed to *small* amounts of these feeds from an early

age, getting him used to new tastes and new consistencies, he grows up without fads and takes all the food he is offered without any fuss.

The first addition to make is raw fruit juice and raw fruit pulp. These should be given fresh, for much of their value is lost if they are stale, while cooking tends to destroy their vitamin content. Oranges, apples, grapes, tomatoes, bananas, raspberries, cherries, peaches, plums, greengages, apricots, may all be given. The fruit is washed well, passed through a sieve or fruit press, then sweetened with a little sugar and given from a spoon immediately before the 2 p.m. feed.* Start with a teaspoon of any new fruit and work up gradually till the baby is having two or three tablespoonfuls.

Some babies are unable to digest raw fruit pulp unless given in very small quantities. If much is given their general health suffers, they become cross and irritable, the appetite becomes capricious, the motions loose and undigested. Care then is necessary. The rule is to start always with tiny amounts and to increase gradually only when it is certain that the raw fruit agrees with the child.

Fruit juices, sweetened and diluted with a little water, are given from a bottle or cup simply when the baby is thirsty, especially in hot, sunshiny weather. Let the baby take as much as he needs to quench his thirst and don't restrict him to a few teaspoons daily.

The next additions are purees of vegetables. Give whatever vegetables are young and fresh and in season : carrots, turnips, parsnips, artichokes, asparagus, potatoes, cabbage, cauliflower, sprouts, spinach, peas and broad beans—all may be used provided only that they are given in the form of a puree. (The best methods of cooking these are given below in Appendix C.) Start with one or two teaspoons and gradually give more as the baby gets used to them. If he refuses his carrots with a wry face, do not be upset but wait quietly till next day—probably he will take them quite well then. Never force him to eat a new food ; you may only sow the seeds of a permanent dislike for it.

* Practically any ripe, fresh fruit pulp can be given. I have seen quite young babies take with pleasure and without the slightest harm the sieved fruit of strawberries, blackberries and melons.

Mothers often complain that their babies cannot take this or that vegetable, that it gives them "indigestion." It is important not to base this opinion entirely on the appearance of the motions: after spinach, for example, they may be more watery than usual and contain more mucus, but this is not a sufficient reason for stopping spinach as long as the baby's general health remains good. If he is obviously upset and irritable, then of course this food should be omitted for a time.

Egg yolk is the next food to add to the baby's diet. It may be given in several ways: (1) One or two teaspoons of the raw yolk may be added to the baby's vegetables at 2 p.m.; (2) One or two teaspoons of the yolk of a lightly boiled egg may be given from a spoon; (3) The egg can be hard-boiled and the yolk given mashed up to a paste with a little milk mixture. One teaspoonful of the yolk mixture is given daily at first, and this is increased gradually till the baby is having the whole yolk; the whole yolk is then given twice a week.

One other addition—bone and vegetable broth. This has been highly recommended and largely used in this country for the last 20 years. Most babies take it extremely well, yet, in my opinion, it is over-rated. It takes a long time to prepare—an important point if the mother is dealing with her baby single-handed—a length of time out of all proportion to the value of the broth; and, secondly, there is nothing in bone and vegetable broth that is not supplied much more simply by raw fruit pulp and purees of vegetables. However, it makes a pleasant change for the baby from time to time. A dessertspoonful at first may be given from a spoon before the 2 p.m. feed: this is increased gradually till he is having 3 or 4 oz. daily. This is followed by his usual milk feed: less milk of course will be needed when he is taking more broth.

By the time, then, that the baby is 6 months old he should be quite accustomed to mixed feeding in small quantities and should be strong, muscular and active.

CHAPTER X

FEEDING AFTER THE SIXTH MONTH

The Importance of Fresh Food

THE present age is the Age of Advertisement. We open our daily newspapers to find more and more space devoted to advertisements. Advertisements confront us daily in buses, trams and tubes ; they shriek at us from the hoardings, they come daily in the post, they are even broadcast ; and a huge industry has been developed around advertising till it enters into every part of our lives. Mankind in the mass are little better than sheep, and they will blindly accept any advertisement for patent foods, for tinned, dried, preserved or refrigerated foods, provided that commercial enterprise has decked its wares attractively enough. This is all wrong. The really important foods for us and for our children are *fresh* foods * : nothing can compensate tinned and preserved foods for their staleness, their lack of vitality. Margarine can never equal butter, dried eggs never come up to fresh eggs. I believe firmly that life itself cannot be reduced to the terms of the physicist or chemist ; that there is something about freshness that defies all scientific investigation ; that it is indefensible to give stale food with one hand and to attempt to supply missing vitamins with the other.

We have now to consider what further advances can be made in the child's diet.

The first change is to begin a second course at the 2 p.m. feed. The baby will need less time at the breast afterwards : or if he is being bottle fed, only about half his usual milk feed, for now milk is to be given in the form of junket, custard, or milk pudding, perhaps together with a tablespoonful of stewed fruit. At the 10 a.m. feed the baby is

* All men who in the recent war fought in the jungles of Burma will remember the extraordinary monotony of K rations. After a week or two of these "scientifically" prepared tinned rations, they would give anything for fresh food.

already having his egg yolk twice a week ; twice a week now he may have hard-baked crusts or rusks or fingers of toast, with butter, and on other days 1–2 tablespoonfuls of porridge, cereal or groats. His diet will then be as follows :—

Diet Sheet for Babies Aged 6–7 Months

6–7 a.m.	10 a.m.	2 p.m.	6–6.30 p.m.	10–11 p.m.
Breast-feed or milk mixture, 6–8 oz.	Egg yolk, 1–2 teaspoonfuls, twice weekly; hard-baked crusts or rusks and butter, twice weekly ; 1–2 tablespoons of porridge or cereal on other days. Followed by a breast-feed, or milk mixture, 6–8 oz.	1–2 tablespoonfuls of sieved vegetables–carrots, spinach, turnips, potatoes, cauliflower, parsnips, daily ; 2–4 oz. of bone broth or soup 2–3 times weekly ; 1–2 tablespoonfuls of egg custard, junket, or milk pudding on other days. Followed by breast-feed or milk mixture, 6–8 oz.	Breast-feed or milk mixture, 6–8 oz.	Breast-feed or milk mixture, 6–8 oz.

Give one teaspoonful of pure cod-liver oil daily, and a fresh fruit drink or boiled water between meals if the baby seems thirsty.

If your baby is sleeping soundly at 6 a.m., don't wake him up to give him his early morning feed. Let him sleep on the extra half an hour, and feed him when he wakes up.

Occasionally you can arrange to give the last two feeds at 6.30 p.m. and 11 p.m. This will give you a chance to go to a cinema or theatre with your husband, as long as you leave someone behind to look after the baby.

The baby should now be learning how to take his milk mixture from a cup. Start him off with a cheap coffee cup, one that he can hold himself with a little help from you : or try him with an egg-cup, or one of the small unbreakable Beatl ware cups. You will find a waterproof groundsheet and a bib very necessary when first a cup is used. If your baby cries violently and seems really upset by having to

take from a cup, you had best avoid a pitched battle at each meal and go on with the bottle for a month or two longer. He may take to it later like a duck to water.

By now the baby will be taking for his dinner soups and

Diet Sheet for Babies Aged 7–8 Months

6–7 a.m.	10 a.m.	2 p.m.	4.30 p.m.	6–6.30 p.m.	10–11 p.m.
Breast-feed or milk mixture, 6–8 oz.	Egg yolk 2–3 teaspoonfuls 3 times weekly, with a finger of toast; rusks and butter twice a week; cereals or porridge on other days: followed by a breast-feed or milk mixture, 6–8 oz.	Sieved vegetables, soups and broths as before; cod-dled egg or 1 tablespoonful of steamed fish or herring roes, 2–3 times weekly; followed by 1–2 tablespoons of milk pudding, custard or junket, or 1–2 tablespoons of sieved stewed prunes, or baked or stewed apples (without pips and skins); breast-feed, or 2–3 oz. of milk mixture only if the baby is still not quite satisfied.	1–2 thin sandwiches (brown, white or wholemeal bread) made with honey, marmite or jellied jam: a sponge finger occasionally.	Breast-feedor milk mixture, 6–8oz.	Breast-feed or milk mixture, 6–8 oz.

Give one teaspoonful of pure cod-liver oil daily and a fresh fruit drink or boiled water between meals if the baby seems thirsty. Give drinks at first from a bottle, later on from a spoon or cup.

broths and all sorts of vegetables as they come into season. You can start him off now on small amounts of steamed fish. There is no need to buy expensive sorts, for they all have much the same food value: steamed herring roes are also

excellent food and are usually well taken. Many mothers complain that their babies hate fish. Of course boiled fish can be terribly unappetising, but if it is cooked tastily and begun in *small* amounts, most babies will take it without any fuss. If he still refuses fish, he may take it well if it is flavoured with a little Marmite.

At about this time you will be thinking about weaning the baby. If you can spare the time, take a week over each stage. If for any reason you have to wean the baby in a hurry, take at least three days over each stage—in other words, about a fortnight in all, otherwise you may have trouble with the baby and trouble with the breasts. The old advice not to wean in hot weather is nowadays considered unnecessary as long as care is taken in making up the baby's milk feeds. As for the proper food and the right amount to give, this depends on the baby's age and weight and general condition (see Chapter VIII).

At what age should the baby be weaned from the breast? It depends on mother and baby. Some mothers, given leisure and a plentiful supply of milk, can breast-feed their babies for 9 months; others cannot breast-feed for longer than 6 months without a serious drain on their vitality. If the baby is well and taking early mixed feeding without difficulty, I think weaning at 6 months is sensible for both mother and baby: though sometimes a baby will resent it bitterly and cry and scream and utterly refuse to take any other food. For such a baby being fed and loved and cuddled by his mother are all the same thing, and the sudden stoppage of breast milk frightens him and makes him wonder what has gone wrong. If he takes easily to weaning, well and good; but if he is obviously upset by the change-over, wait for another week or two and then try again.

Occasionally the mother falls ill suddenly—an attack of appendicitis perhaps—and the baby has to be weaned in a hurry. The usual procedure to stop her flow of milk is to cut down her daily intake of fluids, to give her small doses of salts every morning, to apply cold compresses to the breasts, and to bind up the breasts tightly. It is essential to keep the breasts scrupulously clean, otherwise an abscess may form.

Prolonged breast-feeding—breast-feeding after the 9th month—is bad for both mother and child. It is a drain on the mother's energy and vitality, it keeps the baby too dependent on his mother when he should be forging ahead. Sometimes it is done in the mistaken belief that a woman cannot become pregnant while breast-feeding, sometimes because of an undue emotional attachment to the baby, sometimes because of poverty and sheer inability to afford any other food. But always the child is much better off on mixed feeding.

Diet Sheet for Breast-fed Babies Aged 8–9 Months

As for 7–8 months, but now weaning should be done gradually on the following lines :—

(Br.F. = Breast-Feed. M.M. = Milk Mixture)

	6–7 a.m.	10 a.m.	2 p.m.	6 p.m.	10–11 p.m.
Full breast-feeding .	Br.F.	Br.F.	Br.F.	Br.F.	Br.F.
1st stage of weaning	Br.F.	Br.F.	M.M.	Br.F.	Br.F.
2nd ,, ,,	Br.F.	Br.F.	M.M.	M.M.	Br.F.
3rd ,, ,,	Br.F.	M.M.	M.M.	M.M.	Br.F.
4th ,, ,,	Br.F.	M.M.	M.M.	M.M.	M.M.
5th ,, ,,	M.M.	M.M.	M.M.	M.M.	M.M.

You may find these 4-hourly times awkward if your husband comes in tired and hungry and wants his evening meal at 6 o'clock; or if you have other children to feed; or if you can only manage to breast-feed 2–3 times a day. In this case, it is best to change over at the 8th month, even sometimes at the 7th month, to breakfast, dinner, tea, and a night feed, on the lines shown on p. 104.

If you have other children, arrange it so that you don't have to do any cooking especially for the baby. For instance, if you are giving the children beef-steak pudding with two vegetables at dinner time, followed by stewed fruit and custard, there is no reason why the baby shouldn't have some of the gravy with mashed potatoes followed by a little of the second course. And so on every day: as far as

possible let the baby fit in with the household arrangements. It will be good for his appetite, too, if he sees his brothers and sisters eating away heartily : food fads and refusals will be much less likely.

Alternative Diet Sheet for Babies Aged 8–9 Months

6–7 a.m.	Breakfast 8–8.30 a.m.	Dinner 12.30 or 1 p.m.	Tea 4.30 p.m.	10 p.m.
Breast-feed or milk mixture, 6–8 oz. or a rusk and butter and orange juice.	Lightly boiled or coddled egg, 3 times weekly, with fingers of toast ; rusks and butter twice a week ; cereals or porridge on other days; followed by milk mixture, 4–6 oz.	As for 2 p.m. feed described in detail in the diet sheet for babies aged 7–8 months. No breast-feed or milk mixture after dinner : give a drink of water if the baby wants it.	1–2 thin sandwiches (brown, white or wholemeal bread) made with honey, banana, marmite, jam, syrup, egg and cress, etc. Hard baked crusts, rusks, or toast, with butter ; occasionally a sponge finger ; milk mixture, 3–4 oz.	Breast-feed or milk mixture, 6–8 oz.

Give one teaspoonful of pure cod-liver oil daily, and a fresh fruit drink or boiled water between meals if the baby seems thirsty. Give all drinks from a cup or spoon.

On this scheme the baby gets his bath in the evening—a great advantage when he is beginning to crawl about all day —and his cold sponge or wash in the morning before breakfast.

A big step has been made once the baby has been changed on to breakfast, dinner, tea, and a night feed, and it is now merely a question of increasing his solid food gradually and introducing new foods into his diet.

A word now about milk mixtures, if your baby is not being breast-fed. The proportions of milk and water should be changed every week or two, so that by the time the baby is 10–12 months old he is taking whole milk at breakfast, tea and his night feed. These changes are made as follows :—

	1st stage	2nd stage	3rd stage	4th stage
Milk. .	5 oz.	5½ oz.	6 oz.	6–7 oz.
Water .	2 oz.	1½ oz.	1 oz.	
Sugar .	1 teaspoon	1 teaspoon	1 teaspoon	

Small amounts of meat can now be begun—steamed brains or sweetbread, cottage pie made with fresh meat, minced cutlet, rabbit, chicken, and there is no reason why the baby should not have 1–2 teaspoonfuls of meat, cut up finely, from the joint, as long as it is tender. Don't give the baby a big piece of bread with his dinner : it only destroys his appetite for other foods. He will get all the bread he needs at breakfast and tea time. As for the second course, you can now give blancmange, milk jellies, steamed puddings and fruit fools, made with either fresh fruit (raspberries, strawberries) or with cooked fruit (damsons, plums, black currants, blackberries). Suet puddings, if lightly made, may be given after the 9th month. Protein foods such as meat, fish and eggs, should only be given in *small* amounts, otherwise the baby may get indigestion. Mothers often think that protein foods are "strengthening." This is not the case ; most babies do best on a diet largely vegetarian, containing small amounts of protein. It is of course quite possible to bring up a child on a completely vegetarian diet, and to bring him up as a very fine specimen of humanity. Personally I believe in bringing up a child to eat *everything*, to have no food fads, no special likes and dislikes ; but if the parents wish to bring up their child as a vegetarian, I can see no reason why they shouldn't do so.

The baby's diet between the 9th and 12th month will then be as shown on p. 106.

After the age of 9 months a baby should be taking *all* fruits and vegetables as they come into season, provided that they are quite ripe and tender, and that you do not allow pips and skins. Bananas are excellent for babies : you should buy them when the outside is getting black and the inside just starting to get mushy. Start off with a teaspoonful mashed up with a little milk and sugar and go on till the baby is having a whole banana. Apples, oranges, pears,

Diet Sheet for Babies Aged 9–12 Months

On waking	Breakfast 8 or 8.30 a.m.	Dinner 12.30 or 1 p.m.	Tea 4.30 or 5 p.m.	10 p.m.
Rusk and butter and orange juice: or 3–4 oz. of milk mixture.	Hard-baked crusts or rusks with butter or dripping; an egg, lightly boiled, poached, coddled or scrambled, 2–3 times a week; cereals or porridge on other days; milk mixture or whole milk, 7–8 oz.	Any soup or broth; boiled or steamed fish or soft herring roes, twice a week; *small* amounts of meat—beef, mutton, liver, rabbit, sweetbread, chicken, brains—three times a week, finely cut up or minced; any vegetables mashed up now rather than sieved. Second course as before: add also to the diet light steamed puddings such as Castle pudding and lemon sponge; and suet puddings. Water to drink from a cup.	Sandwiches and sponge fingers as before but make the sandwich fillings more varied—tomato, egg and cress, chopped watercress and Marmite, etc. Shortbread, oatcake, parkin, ginger snaps. Milk mixture or whole milk, 7–8 oz.	Milk mixture or whole milk, 7–8 oz.

Give a teaspoonful of pure cod-liver oil daily; and give a piece of raw apple after meals as a tooth-cleaner.

peaches, plums, apricots, greengages, cherries, melons, may all be given: strawberries and raspberries are mashed with a fork, but blackberries, black currants, red currants, gooseberries should only be given in the form of a fool.

Similarly with vegetables: give them all as they come into season, provided that they are young and tender and well-cooked. Tough broad beans and stringy runner beans would obviously be bad, and such things as the stalks of cabbage and cauliflower. Give small amounts of *raw* salads now, well shredded—lettuce, carrot, onion, mustard and cress.

One other point: young children, even as young as 9 to 12 months, like to choose what they are going to eat. Some years ago a woman doctor made an experiment. She put saucers of different foods, all well-cooked and easily digestible, in front of 13 young babies aged 6–11 months, and they were allowed to take what they wanted, and as much as they liked. An exact record was kept of what they took, they were weighed and measured every 6 months, and a doctor gave them a thorough overhaul. This went on for 3½ years, and it was found that left to their own devices all the children had done extremely well, although their appetites used to vary enormously from day to day. But they had no digestive upsets, their bowels acted regularly—in other words, their natural appetite was an extraordinarily good guide to the diet that suited them best. Often they would make a complete meal of one dish, one child even going so far as to eat 10 eggs at one meal!—after which he went to sleep, to wake up later none the worse for his strange tastes. Of course you can't do this at home, but it only shows that you needn't worry overmuch about your baby's likes and dislikes. If he wants more of any dish, give him a second helping and see how he gets on.

The 10 p.m. Feed

Babies usually need the 10 p.m. feed till they are 10 or 11 months old,* but this varies from case to case. If the baby is thin and underweight and needs all the food he can get, it may be wise to continue with the 10 p.m. feed until he is 14 or 15 months old; on the other hand, plenty of young children will give up their 10 p.m. feed without a murmur by the 7th or 8th month. This feed is usually stopped gradually, ½–1 oz. being given every other night, so that the baby is off his 10 p.m. feed in 2–3 weeks.

Cod-liver Oil

Cod-liver oil is an extremely valuable food. If the mother's

* Many American doctors recommend stopping the night feed at 4–5 months, certainly not later than the 6th month. This plan works well with some babies, but on the whole they do better if they continue rather longer with the night feed. It is a convenience for the mother, but not always what is best for the child.

nutrition is really good, there is no need for it: but otherwise it should be given steadily to all babies, whether breast-fed or bottle-fed, throughout the first year of life, especially if they be town-bred. Most babies take it well, provided that you give it firmly and without fuss, paying no attention to occasional refusals; but if you give it half-heartedly, wrinkling your nose up in disgust, the baby is almost certain to refuse it. Possibly it may be wise to omit cod-liver oil in very hot weather, otherwise the baby should have his teaspoonful every day summer as well as winter, or he may lose his taste for it. Use a good brand and give it neat for preference, for babies do not mind its taste at all.

Cod-liver oil should be stopped at once if the baby has diarrhœa, also at the onset of any infection, such as a cough, cold or sore throat; but once the infection is over, cod-liver oil should be begun again cautiously and worked up to *twice* the dose for a few weeks. All infections tend to exhaust a child's store of vitamins, so it is wise to replenish this store afterwards with plenty of fresh food: milk, butter, eggs, fruit, salads and vegetables—together with extra cod-liver oil.

Some babies will take a violent dislike to cod-liver oil and if pressed will vomit it: to these a good brand of halibut liver oil can be given, for only tiny doses of it are necessary.

Drinks for Babies

One of the greatest advantages of early mixed feeding and smaller milk feeds, as opposed to a diet almost exclusively milk, water and cereal, is that on the former diet it is so much easier to train a baby to be dry. Too much drink only leads to napkins persistently wet. A cup of milk at breakfast time, another at tea, and a drink in the middle of the morning or afternoon if the baby is thirsty, are all that is necessary. Personally I believe that a pint of milk daily is enough for any baby after the age of 6 months, and some children do even better with three-quarters of a pint daily. Milk should be regarded as a food rather than as a drink.

The best drink for a thirsty child is cold water, or you can give fresh fruit juice and water, as recommended in the previous chapter, or home-made lemonade and orangeade.

After the age of 6 months drinks should be given cold, especially in the summer.

Feeding a baby, then, from 6 months up to a year is usually quite easy. All babies have their likes and dislikes, and some cannot take various foods without digestive upsets; but on the whole, by the time the baby is a year old he should be on a very varied mixed diet and taking new foods without difficulty.

I am very well aware that many poor mothers will not have the money to give their babies all the foods in these diet sheets; but a lot can be done by careful buying, and by avoiding things which are out of season and expensive. Use all the vegetables from your garden or allotment and buy only the ones at the greengrocer's that are fresh and cheap and plentiful. If ducks' eggs are cheaper than hens' eggs, buy them—they are almost as useful. And so with fish and meat—study the market and spend your money wisely. To-day, with children's grants, and, it is to be hoped, better houses, better wages for men and better education for young girls on how to run a house and bring up a baby successfully, it should not be too hard to feed your baby on the lines given above.

CHAPTER XI

NURSERY ROUTINE

Fresh Air and Sunshine

FRESH air and sunshine are every whit as important for babies as food and sleep, yet while most mothers take great trouble with the baby's diet, few see that he gets enough fresh air. As far as possible arrange for your baby to spend the whole of his day out of doors. He should be out in all weathers except when it is foggy, and if he can have his meals out of doors as well so much the better. Babies brought up with plenty of fresh air do not catch cold; babies who are used to hot rooms and many clothes, who are continually kept indoors, are always getting streaming colds. Get the baby out early, for the early morning hours are some of the best of the day. In summer he can be taken out of doors in his pram at 7 in the morning, and he need not come in till 10 o'clock at night. There is no point in bringing him in for the night at 5 o'clock: the cool summer air between the hours of 5 and 10 is excellent for him and there is no sense in wasting these 5 hours. In winter he can be out from 8 a.m. till tea time. If you have a garden, whatever its size, put him out there, otherwise put him out on a balcony. Some of the modern flats are being built with balconies for babies, though many flats, especially those converted from private houses, are quite unsuitable places in which to bring up young children—they are far too dark and airless. If the baby does not keep perfectly warm when out in the open air, look for the cause. Possibly a change of diet or more time for exercise will put matters straight.

The windows of the day and night nursery should always be open except in foggy weather: they should not be closed because of cold or rain. Nurseries are often kept at a temperature of 65°–70°. This is too high a temperature: 55°–60° is plenty if the baby is being undressed. At other times the room can be kept quite cold as long as the baby is properly

clothed. Even the most delicate babies will thrive in well-aired rooms, where the temperature falls almost to freezing point. In small houses the living room is apt to get too hot, especially during the long winter evenings, and to avoid the sudden change to a cold bedroom mothers and nurses close the bedroom windows and turn on the gas fire, perhaps opening the windows and turning down the fire again at 10 p.m. when the baby is lifted. This is a mistake, for the baby will be breathing air which is stale and robbed of its natural moisture. By all means warm up the bedroom when the baby is being undressed for bed, but once in bed turn off the fire. Fresh air does not mean draughts and frequent changes of room temperature. Many mothers, brought up at a time when sun and air never came into contact with the body except for a brief spell during August, are apt to call any free movement of air in a room a draught and think it dangerous. In actual fact, large amounts of air blowing through wide-open windows do nothing but good, so see that the baby is warm and snug in his cot and let him breathe fresh air all night. This does not mean that the baby should be placed in a direct current of air, as between bedroom door and window, but that fresh air should circulate freely in the room. Sometimes it is the mother, sometimes the nurse, sometimes the grandmother, that fears open windows and fresh air, and much tact and persuasion may be necessary in getting them to change their views. This is especially the case if the baby happens to be an only child, the idol of his parents and grandparents.

Sleep

Sleep, in Shakespeare's words, is "great nature's second course, chief nourisher of life's feast." This is a true saying, for sleep and nutrition are closely bound up together. However excellent a child's diet, he will not flourish or put on weight if deprived of sleep. It is in sleep that the great chemical processes which underlie growth and repair are hardest at work; it is in sleep that the nervous system is refreshed.

The sleep of a newborn baby bears little resemblance to that of an adult. Its length and depth and nature vary as

the months and years go by, until one day a stable habit is formed, to persist unchanged till old age approaches and "second childhood" is upon us, when there is a gradual reversal to the childish pattern of sleep, to broken spells by night and cat-naps by day. There is a natural rhythm of sleep, then, from the dawn of life to its close.

It is not possible to give more than an *approximate* estimate of the hours of sleep that a baby requires.

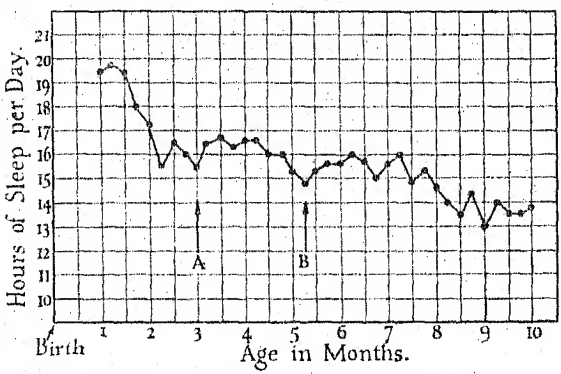
Hours of Sleep Necessary

Babies from birth to 1 month	18–20 hours	approximately.
,, aged 1–3 months	16–18 ,,	,,
,, ,, 3–6 ,,	15–16 ,,	,,
,, ,, 6–12 ,,	14–15 ,,	,,

Sound sleep depends on so many things—the baby's temperament, his age and degree of maturity, his health, his handling, his personal comfort. Temperament—the baby's inherited traits of character, the stability or instability of his nervous system—is of the greatest importance. Some babies are born fat, placid and contented: good sleepers, who fit in easily with any reasonable routine. Others are the reverse; thin, fretful, restless, bad at sleeping, they respond with difficulty if at all to any preconceived routine of feeding and sleeping. They do much better with daily plans drawn up to meet their varying needs. And then there are the betwixt and betweens—"normal" babies we call them. Yet all are normal—it is a matter of temperament, of influences at work on the child long before birth; and little or nothing can be done to counteract these forces.

Age and maturity also play a very important part, for a baby's natural habits of sleep vary greatly from day to day, from week to week, from month to month; and it may be 3–4 months or even longer before he has learnt what we are accustomed to call "good sleeping habits." It is the early months that are apt to be stormy and difficult, when nights are broken and the mother perplexed and tired out by her baby's vagaries. This is the time when she badly needs help and the assurance that this state of affairs will not last for

ever. The baby needs time, for his nervous system is still very immature, and he has much to learn—new habits of sleeping, new rhythms in his daily life. It is for this reason that descriptions have been written and charts drawn up for the baby at different stages of his career—birth, 1 month, 3 months and 6 months, to show how the pattern of his behaviour grows and changes as his body matures.



Average number of hours sleep taken by a baby aged 1–10 months.

CHART I. Baby J.'s *average* times of sleep per week from the age of 1 to 10 months. The arrows indicate brief respiratory infections. The daily amounts of sleep fluctuated from approximately 1 hour above to 1 hour below this average. (After Gesell.)

Notes. 1. The amount of sleep required diminishes steadily from 4–40 weeks in zigzag fashion, *not* in a straight line, fluctuating according to the needs of the baby.
2. Trivial coughs and colds are quick to upset the natural rhythm of sleep.
3. This is an actual record of a baby's sleep; it does not follow that it will apply closely to *your* baby.

The Newborn Baby. If left undisturbed the newborn baby will sleep most of the day and night, as much as 20 out of the 24 hours, waking only to feed. Warm and snug as he was in the womb, he responds best for the first week or two to the snug fit of swaddling clothes, to being wrapped up cosily in a shawl, and tucked up on his side, with his fists clenched and his knees drawn well up. His nervous system

is very immature: he starts at sudden sounds, he dislikes bright light, he wants to be left alone to sleep and grow and feed. His sudden cry means urgent hunger. At this age there is little to be said for a rigid routine: if he wakes and asks for a feed in the night, as he probably will, he should have it. Put to the breast he subsides into sleep as soon as his demands are satisfied.

For the first few weeks he sleeps most of the day, so he will do best in a room by himself. If you have a night nursery, let him sleep there; if you have only a small flat or house, let him sleep in the bedroom when you are in the living room, and in the living room when you go to bed. The usual life of the household need not then be changed for fear of waking him. Put him down quietly to sleep in his cot and draw the blinds, but keep all the windows open wide so that there is plenty of air round his cot. It does not matter how cold the room is provided that the baby is warm and tucked up snug in bed. If the wind is very strong or cold, a light screen can be placed on the far side of the cot. Wind and cold air do *not* harm babies except possibly babies brought up in almost a hot-house atmosphere—on the contrary, they are most stimulating. Windows should only be shut for fog.

The Month-old Baby. The baby drops asleep after his 6 p.m. feed, but not always so; he may lie awake for another 2–3 hours, whimpering and crying from time to time, particularly if he is underfed. He wakens any time between 2 a.m. and 6 a.m., abruptly, usually with the sharp cry of hunger, and he goes on crying until put to the breast. He fumbles at the breast and needs a little help to get contact, but once established his crying vanishes, and he sucks away contentedly with his eyes shut. The feed may take anything from 20 to 30 minutes, then he drops blissfully into sleep, to wake 2–5 hours later for another feed. And so it goes throughout the day. He has only short periods of wakefulness, he is not yet a very social creature, he needs little handling. He fusses and frets if his digestion is not working smoothly, or if he wants to be changed; but crying usually means hunger.

The variations in sleep during 24 hours can best be shown in a diagram:—

Sleeping and Waking Hours in a Baby Aged 4 Weeks (after Gesell)

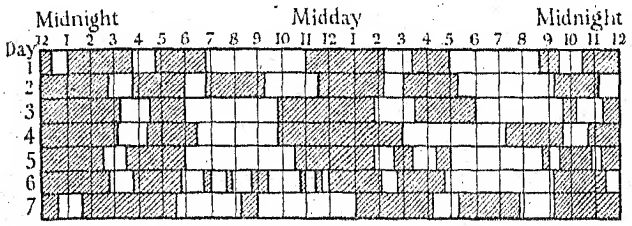


CHART II. Hours spent awake and asleep. Baby aged 1 month.

Explanation of Diagram. The horizontal lines each represent 24 hours, from midnight to midnight. They are divided into squares of 1 hour each, the shaded squares representing sleep, the white squares the baby's wakeful periods. Seven horizontal lines are shown, one for each day of the week, so in this diagram you have the complete pattern of a baby's sleep for 1 week.

Notes. 1. Babies are expected to sleep 12 hours at night, but with this baby many hours were in fact wakeful. At 4 weeks he had not learnt the knack of sleeping soundly from dusk till dawn. If you look at the chart carefully and add up the wakeful hours, this is what you will find :—

	Wakeful periods between 6 p.m. and 6 a.m.
Day 1	6 hours approximately.
,, 2	5 ,, ,,
,, 3	5 ,, ,,
,, 4	3½ ,, ,,
,, 5	4½ ,, ,,
,, 6	5 ,, ,,
,, 7	2½ ,, ,,

2. His days and nights have not yet been ordered into any definite pattern, so it is important at this age not to embark on too strict a routine, but to alter your routine to suit the baby. Many babies *must* have a night feed at this age : it may be 2–4 weeks before they can sleep the clock round and give up the night feed. This varies immensely from child to child ; fat, placid, "good" babies, with a stable nervous system, acquire the habit of sound sleep ; thin, restless, "bad" babies take longer.

The Three-months Baby. The baby of three months falls asleep quickly after his 6 p.m. feed. Nights are now less broken, sleep flows in a more steady stream. Indeed, he often has to be wakened to take his 10 p.m. feed, then off he goes to sleep. He wakes up any time between 5 and 8 a.m., and awakening now is not so abrupt, for hunger is not so acute. He will lie and gurgle to himself happily till his mother

comes, though quick to complain should she delay. He does not go to sleep so readily after a feed, but plays about with his hands and talks to himself for a little while. He usually takes a nap in the early morning after his early feed, a long one in the late morning in his pram out in the open air, and a short one in the afternoon : but should he wake late, the night sleep and the early morning nap are merged into one. In these circumstances, instead of breast-feeds at, say, 7 a.m., 10 a.m., 2 p.m., 6 p.m., and 10 p.m., he may be quite content with four feeds at 8 a.m., 2 p.m., 6 p.m., and 10 p.m. ; nor will the total amount of breast milk taken in 24 hours necessarily be less. As long as the baby thrives, there is no reason why you should not adopt this scheme of four breast-feeds in 24 hours. It has one great advantage—you get a much better night's sleep yourself, and that alone may increase the daily supply of breast milk.

His main period of wakefulness comes between 4 and 6 p.m., and this is often a convenient time to bath him, for at this time of day he loves to splash about and he is on the top of his form.

As soon as possible get your baby used to sleeping in the open air. During the summer and on warm days in spring and autumn, choose a warm corner for him and let him sleep out of doors whenever he can. Don't bring him in for the night at 6 p.m. : the cool of the evening is quite one of the best times of the day and he need not be brought in until 10 p.m. No ordinary noise should disturb him now, so don't choose too quiet a spot, for if he learns to sleep too protected from sound he may become a light sleeper. Let him get used to being moved in his sleep : he can then be moved to suit his parents' convenience, and if he is lying snug in his sleeping bag with his face on his warm pillow he will not wake. One baby I know was regularly put to sleep at 6.30 p.m. in a sleeping bag. His parents had no maid, so when they wanted to go out to see friends in the evening the baby was taken with them in a tram for half an hour's journey, and on arrival at the house was left sleeping upstairs. At 10 p.m. he was fed and changed ; at midnight he was taken home. He never woke and never gave his parents a moment's trouble.

Never leave a baby alone in a house to sleep, and never leave him out of hearing for more than a very short time. To make a baby sleep at the top of the house out of earshot is rank cruelty. He wakes and starts to cry : no one comes. He is sure that his mother has deserted him, he is really frightened, he yells himself wide awake to be heard : and so perhaps begins a lifelong fear of the dark. If he had heard his mother's voice at his first whimper he would probably have settled down quietly without waking right up.

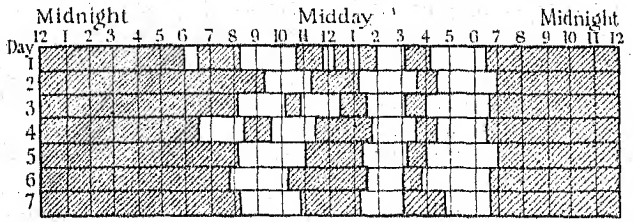


CHART III. Hours spent awake and asleep. Baby aged 3 months.

For the explanation of diagram see the previous chart.

Notes. 1. The baby's sleep by night is now much better organised. He sleeps from about 6.30 p.m. to 7–8 a.m. without a break. The wakeful periods at night are now a thing of the past.

2. By day he usually has a long nap in the morning, with a shorter one in the afternoon.

The Six-months' Baby. The baby usually falls asleep quickly after his 6 p.m. feed. Some wake up at 10 p.m. and have a feed ; others sleep right through the night, and if wakened take little milk or refuse the breast utterly—in which case the breast-feed can be omitted if the baby continues to thrive. If he really needs the 10 p.m. feed and has to be wakened, do it gradually : don't pick him up as soon as he opens his eyes, but let him lie drowsily in bed and look at things and stretch and kick out with his arms and legs. Talk to him while you are waking him. Any self-respecting baby is touchy if roused suddenly from a delicious sleep and changed briskly before a feed.

The baby wakens sometimes between 6 and 8 a.m., usually soaking wet. Change him quickly and give him a toy and he will lie awake and play about happily for an hour or so. Like

the three-months baby he may be fed at 7 a.m., 10 a.m., 2 p.m., 6 p.m. and 10 p.m., or at 8 a.m., 2 p.m., 6 p.m. and 10 p.m. Some time during the morning he takes a nap of about an hour, waking at about 12 or 1 o'clock; in the afternoon he has a second and shorter one, from perhaps 3.30–4 p.m., when he is out in his pram. He needs this sleep by day, for now he is spending his waking hours in play. The three-months baby needed 3–4 hours daily nap: the six-months baby is content with 1½–2 hours. His nervous system is now more organised, he is more adept at sleep: and if there were difficulties with the baby's sleeping in the early stages, they are now over.

Train him to go to sleep without patting or rocking, for if you once start the baby may refuse to go to sleep unless rocked. Leave him in his cot to sleep and don't stay in the same room unless you are obliged to do so.

Occasionally a young baby is too wide awake, and will stand up and walk round his cot after being laid down. Leave him to himself; don't scold him or argue with him. When you go back in half an hour's time he will probably be lying asleep at the foot of the cot in a crumpled heap: all you have to do is to pull the bedclothes gently over him.

Bad Nights

Many of the causes of bad nights are implicit in what has been written already. In the early weeks the most likely troubles are hunger, the lack of cosy warmth, too much light, too much noise. Sleep is still a mechanism easily upset—there is still no depth or continuity in it.

As the weeks go by and the nervous system gradually matures, hunger becomes less urgent and is no longer the most likely reason for a wakeful night. The physical discomforts of being cold and wet play a larger part: and emotional causes such as fear, excitement and over-stimulation. Poor sleepers (*i.e.*, those with unstable, nervous temperaments) pass with difficulty from stage to stage, and hunger may still be felt acutely for some weeks to come. Certainly these babies respond poorly to a rigorous discipline, and need a more sympathetic approach.

Very young babies have little difficulty in going to sleep

—they have to learn to wake. But as the baby grows and his brain is increasingly alert from the sights and sounds of the day, he has to learn to relax his mind when he goes to sleep. Some method of relaxing, *e.g.*, soothing by lullabies, is often wanted in the 3rd month, then things go more smoothly.

Mild respiratory infections (coughs and colds) are quick to disturb the rhythm of sleep. The nose becomes blocked and the baby's natural habit of nose-breathing is thrown out of gear; while if the infection descends to the lungs, breathing becomes rapid and embarrassed and sleep difficult. If there is fever the brain is in a whirl so sleep is light and patchy: it is not till the temperature has been normal for some days that the baby drifts back into good habits of sleep.

The nine-months baby may find it difficult to fall asleep because he has had too little exercise. Bodily fatigue is the natural forerunner of sleep: but in our highly complex, civilised life it is mental tiredness plus the clock that so often decides bedtime for us. So possibly if your baby seems fractious and unready for sleep, the cure may lie in increased time allowed in his play pen.

Training the Baby in Good Habits

The teaching of obedience is often called by modern parents "repression," "breaking the child's will," etc. This, it is thought, is detrimental to the child's ultimate welfare, and so the child is allowed to bring himself up without the help and guidance of his parents. Nobody tells him what he is expected to do or not to do. If the child has complete free will the theory is that his character will develop to the full, untrammelled by "complexes" and "inhibitions." This view of the upbringing of children, the product of a false psychological jargon, I believe to be absolutely false. A child is far too immature a creature to stand the strain of making constant decisions for himself: he needs security, love, guidance and a firm background if he is to thrive. A child that is free to do as he likes is at the mercy of his own whims. He drifts to and fro like a rudderless vessel, peevish and unhappy, a prey to sudden tantrums if thwarted, happy only if he is getting his own way, a child of tumult. This

view is also dangerous in that it absolves the mother and father from all their responsibilities, and so it is apt to become the creed of lazy, easy-going parents. "The child can do no wrong" is a pernicious principle.

Give as few orders as possible, but see that those you give are obeyed, and make obedience as interesting as you can. Many mothers seem to imagine that children should be coaxed and wheedled into doing what is wanted of them, but this is a great mistake. This kind of misdirected kindness leads to argument, nagging and worrying. When the mother says "No," she should mean "No," and nothing should make her swerve from her decision. If the child has to learn to obey, the mother must learn to command, for indecision is fatal to discipline. All nurses should have their authority upheld or their position is an impossible one. A young child will soon discover if he can appeal successfully from nurse to mother, and discipline then becomes impossible. If the nurse has made an unwise decision the mother should certainly tell her about it, but later, in private.

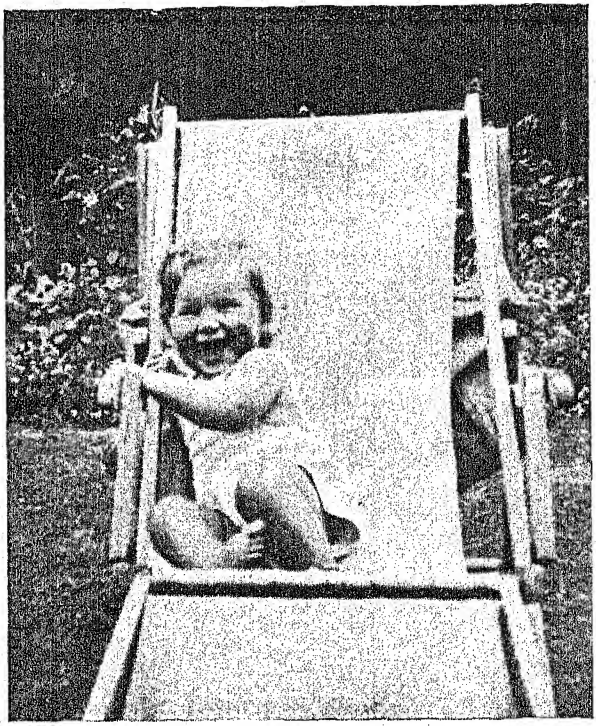
Training into Regular Habits

Mothers and nurses are apt to hold out babies too frequently and too long and to make too much fuss of the whole affair in the early months of life. On the whole, I think it is a waste of time to pay too much attention to the early formation of good habits—a relapse is almost certain to follow. It is better to postpone any systematic training in cleanliness till well after the time of weaning, and even then it should not be carried out with strictness. Too early a start is undesirable, for it raises expectations in the mother that cannot be sustained and it tends to increase the child's anxiety. Train the child early, if you like, but do not be disappointed if he fails. After all, at this time the baby is taking a diet that is almost entirely fluid, so he cannot be expected to be dry.

Regularity can easily be overstressed. Some authorities emphasise the importance of developing regular habits at an early age. Mothers as a rule are most loyal in carrying out these instructions, and if things do not turn out according to plan they feel it must mean that the child is abnormal or

THE MORNING BATH

[*To face p.* 120.



A Sunsuit for the Summer

that they themselves are to blame. They will keep the child on his chamber for half to three-quarters of an hour, they will appeal to him, they will scold him, and if all this is in vain, both mother and child become exasperated and despairing. This is all wrong—the baby is much more likely to go naturally if he is not frightened about the whole affair.

Some nurses make an absolute fetish of lifting the baby. They will snatch an infant up if he so much as stirs in his sleep and put him on the chamber. When he is due to wake, instead of letting him stretch and yawn like all young animals while his brain gets into working order, they will seize him, whip off his napkin and plant him blinking and dazed on his old enemy. This is likely to lead to the baby's refusing to sit on his chamber. He will scream each time he sees it, and arch himself backwards in a sudden gust of passion, obstinately refusing to do what is expected of him. The only treatment is to stop fussing him, to put him on his chamber less often and for less time. It is wrong to make a moral issue of it and to pretend to look grieved or cry if he should fail. An appeal to the emotions is never wise, for passing water should be a simple, natural affair.

Many babies are given milk and water mixtures too long and too exclusively, perhaps even as much as 40 oz. a day. A baby taking such a large amount—1 quart of fluid daily—is bound to pass a great deal of water, so as soon as he weighs about 14–15 lb. it is best to restrict his fluid intake to 30 oz. and to supplement his diet with fresh fruit and vegetables.

The baby should be lifted at 10 p.m. and put on his chamber. The exact time is not important—11 p.m. or even midnight will do just as well. Leave the door ajar so that there is not too much light in the bedroom and put the baby on his chamber gently, if possible without rousing him. Some warm water in the bottom of the chamber will make it more comfortable for the baby; there is no need to rouse him thoroughly by putting him on a cold chamber. Some babies will pass water almost in their sleep, while others awake and protest violently and may not drop off to sleep again for an hour or two. Should the mother then continue to lift the baby or should she leave him alone? In most cases it is best to go on lifting the baby every night, for then

he will probably accept the new routine quietly and without fuss. But in other cases the baby works himself into such a passion of tears and anger every night that it is unwise to persevere with the practice in the face of such resistance. It is much better to wait quietly and to try again in a month's time.

Don't stop lifting the baby at night when he has given up his night feed; he must be lifted regularly every night until he has been dry for at least a month. In the majority of cases this should happen by the time the child is 2 or 2½ years old. One advantage of stopping the night feed at an early age is that it is much easier to get a child dry by night if he has not taken a feed of 6–8 oz. of milk mixture at 10 p.m. Probably 2–3 oz. is quite enough, or, better still, just the juice of an orange to quench his thirst. The night feed can be omitted for many babies once they are 7 months old.

Even if the baby can't absolutely be trusted, napkins should be stopped when he starts to walk, otherwise the movements of his limbs will be hampered.

Finally, one of the most important points in training the child is to teach him to give some sign—any word or sign will do—when he wants to pass water. If then he is attended to promptly he will be quick to appreciate dry napkins.

The regulation of the bowels is a much easier affair and largely a matter of proper diet. Fruit or fruit juice every morning when he wakens, and nothing else except a drink of water till breakfast, fresh green vegetables and fruit during the day and water between meals—these will soon make him regular. Aperients are bad. The only permissible ones—and these should be avoided whenever possible—are small doses of liquid paraffin and milk of magnesia or fluid magnesia. It is possible to train some babies from the earliest weeks of life to pass their motions into a chamber; others are more difficult and even if they have been trained by the age of 9 or 10 months to be clean they will often relapse at the age of 1¼ or 1½. It is important to use one's imagination and not to apply adult standards to children prematurely. For example, the mere act of balancing on a chamber is no mean feat for a child that has hardly learned to stand and walk; he needs time and patience to acquire the necessary

skill. A mother or nurse will sometimes boast that her baby was dry and clean by the age of one. Another mother hearing this is apt to think that perhaps her child is backward, since he is now 1½ years old and still not always dry and clean. She redoubles her efforts to make him conform with her wishes, but to her dismay, instead of improving, the child gets worse, and now every time he sees the chamber brought out he begins to scream and kick with passionate rage. The right line of action is, first of all, to give up the use of the chamber temporarily; and, secondly, to put napkins on the child again by day and to leave him quietly alone for a month. The chamber should then be tried again, but without fuss and without any feelings of exasperation if the child should still refuse to use it. He will come to it in time, provided that no emotional appeals are made. You may be exasperated that all your efforts at training have come to nothing, especially perhaps if another mother who seems a poor flighty creature has a baby who is a model of good behaviour. If the first baby was dry and clean at 9 months, it seems reasonable to expect a second baby to be clean at the same age. But you can't force babies into rigid schemes like these—each one will learn to do things in his own good time, so be patient and accept the situation with good humour.

Meals and Their Management

The proper food for a young baby has already been dealt with in another chapter: we have now to discuss the way in which it should be given. First and foremost, a meal time should be a time of enjoyment; don't fuss the baby but let him get on with his food in peace and quietness. He will make a dreadful mess of himself when he first starts to wield a spoon, but he'll enjoy himself highly—and that is very important. Don't fuss about manners: that can wait till he is older. Even though you have a nurse, it is a good plan to have the baby with you at meal-times—you then know exactly what he eats and how he eats it, and you can manage your child with confidence when the nurse is out for the day.

See that your baby's meals are served attractively. Let

him have a proper plate and spoon of his own—a plate with sides, and an unbreakable cup : and of course a large bib and a bit of mackintosh or oilcloth under his chair. Don't fill his plate too full or give him his food mashed up all together, like a dog's dinner, otherwise he will be daunted by the amount of food to be eaten and tire long before the end is reached. The smaller the helpings, the better : he can always come back for more. It is bad training to let him leave some of his dinner every day ; let him finish up the first course before the second course is even brought into sight.

No baby likes to sit still for long. He'll wriggle and twist about in his chair, play about with his food, and give up when he's only half-way through. Sometimes he's getting tired, and you have to spoon feed him yourself to finish off.

If he refuses food, give him water or orange juice and let him wait till the next meal. Never coax a baby to eat. He cannot talk : turning his head away from the bottle merely means he doesn't want any more, so the rest should be taken away without comment. To humour his whims is fatal. If he cries for the rest, stick to your determination not to give it to him and he won't do this again. Don't show any sign of nervousness : be calm and good tempered, but firm.

Sometimes a baby will develop the annoying habit of prolonged chewing before swallowing. They like the feel of it : it's almost like chewing the cud or the American habit of chewing gum. You can stop it easily enough : set a time limit to the meal and take his food promptly away if he hasn't finished it. Tell him of course you're going to do this, but don't scold him and say it's naughty, for it's not—it's a pleasure. Do this with a smile, but be firm.

Refusal of food may be due to :—

1. The onset of an illness ;
2. The baby being too tired or excited to eat ;
3. The food disagreeing with him ;
4. Teething ;
5. Hot weather ;
6. The baby being worn out with crying ;
7. Simply " playing up " his mother.

"You can lead a horse to the water, but you can't make him drink," so the saying goes; so if your baby's appetite is poor, try the effect of miniature meals. Give him about one-third of his usual feed, and if he demands more tell him gently but quite firmly, No, not until the next meal. At the next meal offer him a little more and increase the size of his meals gradually as long as he empties his plate every time. He will soon get back to his full feeds.

At first, of course, you'll have to give him a hand with spoon feeding, but don't do it too long; for if you do and he's a lazy baby he will give up all interest in the job. As long as somebody will feed him, he won't be bothered to do it for himself. Nurses are often to blame—they don't like spilt food, or they get irritated by the slowed-up meals; so rather than waste any more time, they will spoon feed the baby themselves. All very well, but it doesn't help the baby. I'll admit it's often maddening. He'll bang his spoon on his chair as if it were a drum, he'll drop his cup or plate on the ground, fiddle around with his food and dawdle until you are at your wits' end. And of course he's enjoying every second of it. But don't let him throw his food about: tell him quite firmly that he has got to eat it up, that if he doesn't want it, he can go without. Stick to your word, and he'll soon learn.

Don't have daily fights over his feeds. A baby has his natural appetite like a grown-up. At one meal he will eat more, at another less; and this is perfectly normal. Just think for a moment: how would you care to have food forced upon *you?* A battle royal at every meal is a great mistake—it may easily lead to persistent crying and refusal, even perhaps to vomiting. Don't force food: just wait quietly to the next meal.

Crying

In infancy, so it is often said, a certain amount of crying is absolutely necessary—the baby cannot shout or sing, so he has to cry to air his lungs properly. This idea is, I think, absolutely false; many babies must suffer constantly because their mothers do not listen to their cries and attend to their wants promptly.

Now a baby may cry because :—

1. He is hungry or thirsty ;
2. He is too hot or too cold ;
3. He hasn't enough air ;
4. He is wet and wants changing ;
5. He has wind ;
6. He can't move about enough ;
7. He is worried by flies ;
8. He wants love and attention.

First find out what is wrong with your baby ; don't just pat him and try to hush him up. If he stops crying the moment he sees you bending over his cot probably he is playing you up. See that he is comfortable, give him a drink of water, change him if necessary, tuck him up firmly and leave him to cry it out. This applies to night as well as to day. On the other hand, don't let him go on sobbing too long, for he may feel that you have deserted him and work himself into such a panic that he is quite unable to stop. Sit him up and comfort him, dry his tears and turn his pillow if it is wet, tuck him up firmly and go away. No baby should ever sleep out of earshot of his mother or nurse. If he chances to wake in the night and find no one to comfort him he may get thoroughly alarmed and cry for hours : this does nothing but harm. The tiniest baby, once he realises that his mother is near, that he need not be afraid, will drop off to sleep quietly in a few minutes.

If the baby has wind sit him up for a minute or hold him over your shoulder and pat his back gently. If he is still restless, give him a drink of warm water. Sometimes half a dozen drops of brandy in a little hot water is helpful. If no better, try putting him face downwards on your lap with his tummy on a hot water bottle, covered with flannel and comfortably warm ; while, if all else fails, a warm bath may comfort him and ease his pain.

Whining and grizzling are always objectionable and largely a matter of habit. A baby of 8 or 9 months is quite old enough to learn that if he stops grizzling you will pick him up. An angry child, kicking on the floor, is almost always best left alone ; shouts and arguments are useless. The right

attitude to take is, I shan't bother about you till you want to be good.

Whether a baby who falls and bumps his head will laugh or cry depends largely on the way you take it. If you rush to him and pick him up and ask anxiously if he is hurt he will almost certainly cry : if you pick him up quietly, stroke his head and tell him that was a funny thing to do, he will laugh. Tears occasionally are a relief, so don't be too Spartan in your methods of upbringing.

If the baby is *constantly* crying, make absolutely certain that he is not being underfed. In my experience this is often the trouble ; as soon as more food is given the crying stops and the baby becomes a happy, contented young creature. Think over every detail of his daily life—food and drink, clothes, sunlight and fresh air, movement and exercise, sleep —and see if you can find out what is wrong. The better the care, the less the crying—that is certainly true : but it is only right and proper to say that often you will be at a loss to discover what is wrong. Nor can doctors always tell—babies will cry for no known reason.

Fear in Infancy

Very early in infancy babies show signs of fear. They will jump at sudden noises and cry when a door bangs or a telephone rings ; they will turn away from a strange face with a howl of anguish ; they will show signs of nervousness and cry if they are not handled firmly and confidently by their mothers. Fear is rarely inborn. Most babies are born of courage : fear is implanted in their youthful minds by the suggestions of the grown-ups with whom they come into contact. Fear, like fire, is useful in the right place at the right time. It is by no means an unmixed evil—it is the spur to fortitude. Although fear that warps and twists the emotions is bad, fear that promotes the healthy growth of personality is good : so to omit fear altogether from the child's life, even if that were possible, would be most undesirable. If fear and fortitude are developed hand in hand the child's character will be strengthened. Pain, injustice and evil the child must meet when he becomes a man—he will

meet them like a child unless he has learned both to fear and conquer fear.

The management of the fears of infancy depends, then, partly on the mother's character, on her own fortitude and sympathetic guidance; partly on the child himself. Do not make the child fearful by worrying too much about him, for he is quick to learn what is expected of him and to react accordingly. Do not laugh at the child's fears, for they are very real to him. A sense of humour always helps in a crisis, but the best humour usually has a quality of sympathy. Do not scare the child out of his fear by scolding or false threats; praise him for his fortitude rather than shame him for his cowardice. Keep him strong and healthy, otherwise overtiredness and malnutrition may so undermine his stamina that he falls an easy prey to unnatural fears.

Shyness

Some children are easy and natural with strangers: others, especially the imaginative sort, show a reserve and shyness that should be respected. They take their time to make friends. Now this natural timidity is very different from the shrinking kind of withdrawal and silence which foretell an abnormal curling up into one's shell, a sense of inferiority that strikes at the very roots of personality. If a child is unduly shy with strangers every effort should be made to develop his natural abilities and self-confidence by giving him plenty to do with his hands, by games and play and the companionship of other children. When he is brought down to tea, allow him a little time to get used to the visitors. Let him play about happily on your lap while he is taking them in, then give him to one of your visitors to hold. If he is handled *quietly* he will probably behave perfectly, but if he is jogged up and down and petted and kissed and everybody's attention in the room is focussed on him, it will probably be too much for him and he will start to cry. The youngest of babies need treating gently and tactfully, without too much fuss.

Thumb Sucking

Quite early in life—sometimes indeed within a few moments of birth—a baby finds he has fingers and thumbs

and begins to stuff them into his mouth, partly for the sheer fun of the thing, partly because sucking is one of his main pleasures in life—his earliest pleasure, in fact, on coming into the world. This is quite natural—every baby does it at some stage or other. His lips and tongue are very sensitive and he learns a great deal about hardness and softness and the queer tastes of things by putting everything in his mouth. This hand-to-mouth instinct is very active at the age of 6 months, it is usually on the wane at 9 months, and it should be gone by the time the baby is 1 year old; for now he should be giving up childish pleasures and using his hands in more advanced ways—by playing about with toys, by banging on a drum, by pulling himself up in his pen, and so on. Occasionally, however, the habit persists beyond the natural time, and only then does it require treatment.

A baby who sucks his thumb is very much like a grown-up who smokes—it is largely a matter of habit. When a man has an idle moment, when he's tired or bored, when he's worried, when he's not feeling well, when he's angry, he will pull out a pipe and light up and start puffing away, and in a few moments he's at peace with the world. A baby sucks his thumb for almost exactly the same reasons—when he's bored, tired, worried, not feeling well, when he's in a temper. It soothes his feelings, and if you scold him and try to pull his thumb out of his mouth, he is passionately angry and bursts into floods of tears.

Now it is quite true that if a baby sucks his thumb persistently there is a grave risk that he will deform his teeth and jaws, the upper teeth being pushed forward by the thumb, the lower teeth backward—in other words, that he is likely to develop rabbitty teeth. But cure does not lie in force. It is for you to discover why he does it, then you will see how you can help him. He may suck his thumb because he is left lying too much in his cot or pram and is thoroughly bored—put him on the ground more and give him toys and bricks to play with; he may do it because he has been put to bed too early and he's not tired and he has nothing to do—give him more exercise during the day and see that he goes to bed tired out and ready for sleep, perhaps cuddling a favourite toy; he may be unhappy and fed up—take him

in your arms and cuddle him and soothe him down ; he may be worried by teething and it gives him relief—leave him alone, for he will stop sucking his thumb once the tooth is through.

Sometimes when a baby has been scolded or slapped he will go very quiet and sulk and moodily suck away at his thumb. This you should not allow ; for there is a real danger that whenever he is faced with difficulties, he will fall back into his babyish trick of thumb sucking rather than face up to them. Jolly him out of his moodiness, think of something that will amuse him and make him laugh, and soon he'll be waving his hands away as gaily as ever. Never let him go on sulking.

The cure for thumb sucking lies then in your hands : find out the cause and treat it. Trying to break the child of the habit forcibly, by pulling his thumb out of his mouth, by painting the fingers with bitter aloes, by using splints for the arms, will do more harm than good : and it will only call his attention to it. You have taken away his prop, his sole source of comfort, and you have done nothing to help him. Naturally he resents it, he sulks, he is determined to keep it up ; and now you are in for a contest of wills, a dreadful state of affairs, and what began as a harmless habit drifts into a state of open warfare. So don't be in a hurry : think it out and probably the right solution will come to you.

Spoiling Babies

You may think that a tiny baby under 1 year old cannot be spoilt, but make no mistake—he can, perhaps by you, perhaps by a doting grandmother, perhaps by an over-possessive nurse. It isn't easy to steer a middle course between indulgence (*i.e.*, spoiling) and an over-strict discipline. Parents spoil their babies for many reasons—because they were spoilt in their own childhood and they know no better ; because they were hopelessly over-disciplined and they are determined that their baby shall not go through the miseries they did ; because the baby is a very much wanted child, perhaps an only child arriving rather late in the mother's life when she had given up hope

of having a child ; because the mother has an over-developed maternal instinct, and for her babies always come first, a husband second. Sometimes we see parents swing to the opposite extreme, parents who demand from the children a prompt, unquestioning obedience at all times, families where "discipline" and "bringing up a child on strict principles" might almost be called bullying. With this sort of handling a strong-willed child will only become rebellious and defiant, a timid child full of fears, given to lying if he breaks a rule, shy and retiring, cowed into good behaviour. And then there are the parents who are inconsistent, always changing their tune, at one moment wheedling and coaxing, at another scolding and slapping, until the child doesn't know if he's standing on his head or his heels.

The remedy is simple enough. Don't listen to all sorts of contradictory advice from well-meaning friends and relatives : run the baby yourself. Let him go his own way as far as possible, and only interfere when it's absolutely necessary. Give way on small things, but stand firm when it's something that matters. Be clear in your own mind what you want, and make your demands reasonably, and in a pleasant voice ; and don't relax your rules and requests just because the baby has been ill, or he'll soon learn his power and become a little tyrant. It is important also that the father and mother, or the mother and nurse, should agree : otherwise it is all too confusing for the simple mind of a child.

Babies like the companionship of grown-ups : they don't like to be left alone too much, they need comforting and cuddling, they like to be spoken to and sung to. So enjoy your baby, take him about with you when he's awake, sit him up in the corner of an armchair and let him watch you going about your household duties. As he grows older, say 7–8 months, he will spend more of his time awake. He'll learn to crawl, to stand, to hold things ; and he soon discovers that by sounds and cries he can catch his mother's attention. He soon realises his power. If he finds that by crying loud enough he can get what he wants, he will do so : and if you always give way, he has already begun to be spoilt. It's nothing but blackmail, and blackmail by shouting and

crying you must always resist. You can usually guess by the sound of his crying if he genuinely needs something, or if he's trying it on. If distress is real, he will probably go on crying after you've picked him up, and he needs comforting and cuddling; but it's quite a different sort of crying when he's trying his blackmailing tricks, when he's in a temper, for then he stops promptly when you lift him up. Of course he has good reason for his actions. He's living and learning at such a rate that he easily loses his patience. What he wants, he wants at once, and he can't wait for it. But he has got to learn to take the rough with the smooth, to take his place in the household, to give in with a good grace whenever your demands are firm and reasonable; and if you can educate him to do this, you will have done a very great deal for your baby, something that will stand him in good stead all his life.

CHAPTER XII

THE CARE OF THE SKIN AND HAIR

THE skin is one of the most important parts of the body. It acts as a covering for the body and as a sense organ, it regulates the temperature, it gets rid of water and salt as sweat. Much can be learnt about the baby's health from looking at his skin. During pregnancy a baby is kept warm in the womb, so at birth the skin is brick-red; but as he learns to adapt himself to the ever-changing temperature of the external air the skin gradually becomes pale, though still feeling quite warm to the touch. If 3 or 4 months have passed and the child's skin is still quite red, his circulation has not been educated properly by the gradual lessening of clothes, by the free play of air on the skin, by baths and so forth. A glance at the baby's face may confirm this. His cheeks should have the faint glow of health, colouring up with heat or exercise, paling with cold. Persistently bright rosy cheeks are *not* healthy. They are sure evidence that the child's circulation is poor, that he cannot cope with the forces that raise his body temperature: they are an outward and visible sign of overfeeding and overclothing. Or you may see the reverse—a baby with a pale face, a pinched expression and a pallid, bluish look about the mouth. These are only to be seen when the child's circulation is seriously disturbed, it may be by underfeeding, or underclothing, or perhaps, most commonly of all, by indigestion.

Proper care of the skin is most important. When a baby is born the skin in nearly every case is quite perfect. It is mainly wrong handling as regards clothing, washing and drying, and too little sun and air, that keep the baby's skin from remaining perfect.

The great principles in the care of the skin are (1) to keep it dry, (2) to keep it cool and (3) to keep it clean; and for

these purposes baths are required, which are of three kinds :—

Water baths.
Sun baths.
Air baths.

Water Baths

Babies generally love baths : they coo and laugh and splash about and are most appealing. For them bath time is quite one of the best moments of the day. Baths should be given at about the normal temperature of the baby or a little above—*i.e.*, 98° to 100°. For a healthy baby, gaining weight steadily, the temperature of the bath can be lowered a degree or two every other day until he is taking his bath at 80°. This applies to babies in summer when aged 4 to 6 weeks, in winter when aged 8 to 10 weeks—indeed, in summer at the age of 4 to 6 months many babies will thoroughly enjoy a cold bath. Cold baths are not advisable for all babies ; many do better with a quick warm bath at 100° for a minute or two, followed by a cold splash. A baby should always glow when his bath is over : the slightest sign of coldness or shivering is an indication that he is not suited to it. Judgment is necessary in this as in all things.

No baby is too young for the grown-ups' bath. His limbs are absolutely free and yet supported in the water and there is no danger of his head bumping one end if he pushes out with his feet. Besides, exercise in the bath—which is not so easy for a baby bathed in front of the nursery fire—is invaluable. Ducks and goldfish are very popular and he can play about with a sponge and splash vigorously. You can hold him by the hands and feet and draw him up and down the bath : you can let him swim on his tummy with only your hand under his chin. Don't keep him in the bath too long, for this tends to soften the skin and then drying him is apt to make the skin rough. When it is time for him to come out, let the water out of the bath gradually till he is lying on the floor of the bath kicking, then get him out. If he should slip and get a fright, don't take him out immediately, but distract his attention and make him laugh, otherwise he may be afraid to go in next day. Let him lie

back in the bath and have his hair washed lying down : this will prevent soap getting into his eyes. Only soap his head once a week, otherwise the scalp may get too dry and begin to get scurfy.

Use one of the special baby soaps—there are several excellent makes on the market—and avoid antiseptic soaps, which are often irritating to the baby's skin. For the face, soft water or rain water is an asset. If the local water is hard it can be boiled or softened by adding oatmeal to it. (Fill a butter-muslin bag about 3 inches square with ordinary oatmeal or bran and swirl it about until the water becomes milky. The bag can be used three or four times.)

Dry his ears carefully after his bath with a towel or cotton-wool. It is not necessary to wash the insides every day, for too much water is not good for them. Don't use more than the tiniest twist of cotton-wool to get his nose clean.

After bathing the baby, dry him carefully with a warm, rough towel, taking especial care of the folds and creases, between the fingers and toes and behind the ears. Drying should be done more by blotting and dabbing than by rough to-and-fro movements, which can easily damage the skin. Baby powder is unnecessary. Insufficient drying after baths and the excessive use of soap are the main causes of a rough, tender skin. If the skin should become rough, the morning bath should be stopped for a few days and the skin rubbed very gently with a little almond oil or olive oil. A separate flannel and soft towel should be kept for the baby's face. In cold weather it is a good plan to put a little cold cream on his cheeks before taking him out.

Sometimes a baby who is not thriving will be found to have persistently cold hands and feet. His face is apt to be pinched and drawn, his general condition below par, the skin of his arms and legs pale with a bluish mottling, and though his body may feel warm to the touch his hands and feet are quite cold, sometimes pale, sometimes red like raw beef. It is of the greatest importance to see that a baby's hands and feet are kept warm at all times, for unless this condition is remedied early in life he is apt to grow up with a poor circulation and a tendency to chilblains. The tepid bath at 100°

is much too cold for this type of baby : he should be bathed quite quickly in the morning in a *hot* bath, at a temperature of 102° or 103°, dried in front of the fire with a warm, rough towel, and dressed at once, after which his hands and feet should feel perfectly warm. He should wear woollen gloves and bootees not only in winter but at any time of the year if his hands and feet are cold. It may be necessary to put a hot water bottle at his feet when he is in his cot or out of doors in his pram. His hands and feet must be felt several times during the day, for if they still feel chilly it may be necessary to give him another quick hot bath later on during the day. With this treatment the hands and feet will keep quite warm, and as time goes on the baby will acquire a good circulation much as he acquires other good habits. At the same time his general condition will improve, for food which previously went towards keeping him warm will now be available for purposes of growth. At a later date he can be weaned back gradually to the usual temperature of the bath, cold sponging, cold baths, etc., but always with the proviso that he is glowing with warmth afterwards.

A baby usually gets his bath at about 9.30 in the morning, when his father has gone off to work and other children to school. At about 8 or 9 months, when he is having breakfast, lunch and tea and a night feed at 10 p.m., the bath is given at 5.30 p.m., with bed at 6 p.m. He should then have his cold splash in the morning.

Sun Baths

These are immensely important, not only for the proper care of the skin, but also for the whole growth and development of the baby. Unfortunately there is still considerable prejudice about them, and while mothers and nurses are anxious to let their babies have ultra-violet light, they are aghast at the suggestion that a baby should be allowed about naked or in a sun-suit in a garden in suitable weather, to get all the natural ultra-violet rays from the sun. All young growing things need the sun, and babies are no exception to this rule. A tanned skin is proof against most of the skin troubles of early childhood. In the spring or autumn every effort should be made to catch all the available sun. At this

time of the year there is no risk of exposure, so let the baby lie or crawl about for 20 minutes to half an hour, depending on the weather. Once the skin is getting brown longer time may be allowed. In summer, especially when at the seaside, go a little more slowly and sun your baby at first for 5 minutes front and 5 minutes back, gradually increasing the time, otherwise the skin may get red and painful. Other symptoms of over-exposure to the sun are lack of appetite, lack of energy, irritability and sleeplessness. It is common to hear a mother say on return from her summer holiday that the sea didn't seem to suit her child, that he wouldn't eat or sleep properly, that he was fretful and so on : this almost invariably means sudden over-exposure to the sun during the month of August of a child who has not had sun baths during the spring and summer months.

The best time for sun bathing is immediately before breakfast and again about tea time. Of course you can sun bathe your child at other times, but don't sun him immediately after meals or between 11 and 3 on very hot days. In the summer babies love to crawl about on the lawn at tea time naked or in a sun-suit, and they will shriek with delight of you have a garden hose or sprinkler and use it on them.

Air Baths

These are important even if there is no actual sunlight, as they train the skin to withstand changes of air temperature, and in towns and cities they are doubly important, as they are an excellent preventative against rickets, the disease of civilisation. A skin that has never had to react to changes of temperature is abnormal, and unless a child has been properly trained by sun and air baths sudden changes are likely to upset his health and give him colds.

The care of the skin is intimately bound up with the subject of clothing ; you should then refer to that chapter for further details. Here let it suffice to say that the commonest fault is overclothing : this occurs amongst all classes, rich and poor alike. The skin is largely responsible for the regulation of the baby's temperature. If the air is too cold the blood vessels in the skin contract and the skin goes blue and wrinkled (" goose-skin ") ; if too hot the vessels dilate,

the skin becomes red and sweating occurs. Now every part of the body, including the skin, needs normal work to do: Nature never intended that the body should constantly be kept at an even temperature by means of clothes. Let the skin at times deal with cool air, at other times with warm air, and it will keep supple and healthy. If clothing is excessive the baby will get uncomfortably hot and sticky, he will become peevish and fretful, liable to skin rashes and repeated colds. Sometimes you will see the reverse, a baby with a mass of clothes bunched round its middle and a pair of cold, blue legs peeping out below. Treatment is obvious from what has been said: for the former, less clothes and more sun and air; for the latter, woolly socks, warm baths and a brisk rub down for the legs.

Care of the Hair and Scalp

The baby's hair should be washed daily with warm water and soaped once a week; then, after thorough drying, it should be brushed well with a soft hair brush. A few drops of castor oil rubbed into the scalp after the bath, or an occasional shampoo, help to keep the hair and scalp in good condition.

Soap, when used in excess, tends to remove the natural fat from the skin, and many cases—diagnosed as "eczema" of the scalp because of a superficial roughness of the skin, and treated with many different ointments and lotions—are in reality due to the excessive use of soap on a sensitive scalp. The avoidance of soap and water for a few days, and the use of a good cold cream or a little almond oil rubbed very gently into the scalp with the tips of the fingers, will often put matters right. Oatmeal water should then be used for a week or two.

Many young babies have red patches of skin at the nape of the neck, sometimes also over the fontanelle and on the upper eyelids. These are developmental anomalies of the same nature as birthmarks: they have nothing to do with eczema, but, since they are often extensive and disfiguring, they give rise to much anxiety, particularly if the baby is a girl. No treatment is necessary, as they tend to disappear

gradually during the first two years of life, leaving no trace behind.

Babies are often brought to the doctor with dark brown, greasy-looking scales over the scalp, particularly over the fontanelle. This condition is usually due to the insufficient use of soap and water. Many mothers are afraid to wash the skin over the fontanelle, for they think it dangerous. This is quite untrue ; there is not the slightest risk in touching the baby's fontanelle. The remedy is simple. Lather the baby's head well with soap, take a soft scrubbing brush and scrub gently till all the scales come off, then dry thoroughly and rub in a little cold cream with the tips of the fingers. Some doctors recommend the removal of the scales by rubbing them gently every day with a piece of gauze dipped in olive oil, but this treatment takes much longer and is only advisable for babies with very sensitive skins.

Greasy scales on the scalp and little scurfy patches on the cheeks may occur also in babies whose diet contains too much fat. If the baby is breast-fed the best thing to do is to stop one or two breast-feeds and to replace them by a half milk, half water mixture ; if he is bottle-fed, the strength of the milk mixture should be reduced and more broth and vegetables given. Jersey milk, which is very apt to cause trouble, should be replaced by ordinary milk from a mixed herd, and cod-liver oil should be stopped temporarily. On these lines the baby's skin should be cured or show obvious improvement within a week or 10 days.

At the age of 9 months or a year it is a good plan to cut a small boy's hair short for the first time. It is neater, it looks quite charming, and it is much easier to keep clean and tidy. Hats and bonnets are not necessary for healthy babies except in very cold weather, but for premature babies and babies who are underweight, under-nourished or recovering from an illness, they are certainly advisable.

Cutting the Baby's Nails

If the baby is a sound sleeper, cut his nails when he is asleep : if this is not possible cut them at a time when he is most rested. His hand should be held so that only one finger is exposed at a time ; the rest lie in his mother's hand and so

are kept out of the way. Use sharp scissors and cut the nails almost straight across, not too close. Keep the nails clean with an orange stick.

Care of the Buttocks

The skin of the baby's buttocks is just as delicate and sensitive as the skin anywhere else on the body and should be treated with the same care. The best napkins, if you can afford them, are Harrington's squares or "Hushabyes"; napkins made of Turkish towelling, however, are quite serviceable as long as they are not too bulky and are boiled often enough to make them soft. If you are going on a journey you will find "Napkinettes" most useful: these are made quite cheaply of a material like gamgee and they are thrown away after use. They are also useful should the baby have a sudden attack of diarrhœa, as they can be burnt at once. If you can, have a proper wash-tub in the scullery and wash your baby's napkins there. Leaning over the bath is back-breaking work—besides you will find that the bath is usually full of soaking clothes whenever anyone wants a bath. Washing napkins is a tiresome business, so train your baby early to use a chamber.

Wet napkins should be put in a covered pail of water, dirty napkins in another pail containing some disinfectant. The wetted ones should be washed, rinsed and hung up to dry. Dirty ones are shaken over the W.C., scrubbed under the tap with a hard brush and soap, left soaking for some time in cold water and washed out in a good lather with soap or soap-flakes. Rinse them thoroughly in several changes of clean water, then dry them and let them air thoroughly. Don't use soda.

You will sometimes see babies with voluminous napkins over which are pulled rubber knickers. It is true that on journeys these knickers are handy in case the baby wets himself, but it is only too easy to slip into the habit of leaving them on the baby all day—a bad habit, as no air can get at the child's skin, and if the napkins get wet the baby will soon get badly chafed. Most nurses clean up the baby too vigorously. Perhaps he has been lying in a dirty or wet napkin for some time and the skin is already moist and

vulnerable: if now the buttocks are cleaned down vigorously with a clean corner of the napkin, as many nurses do, the thin top layers of the skin are easily damaged. When cleaning the baby, do it *gently*, and take as much care as if you were dealing with the skin of the face. The main principles in the treatment of the skin I have already mentioned—keep it dry and cool and clean—so for the normal child don't use vaseline, creams or ointments. Powder, too, is unnecessary. It is true that it does no harm if used intelligently, but too often the baby is not dried thoroughly enough after his bath, especially in the creases and folds of the skin, but is merely powdered over briskly; this sodden powder can be seen lying in the damp creases and may set up redness and irritation. If the skin is washed with soap and water too vigorously the normal fat in the skin will be removed and the skin will become rough, chapped and cracked, and it is then easily invaded by organisms. The baby should be changed whenever the napkins are dirty or wet; he should never be allowed to lie in damp or dirty napkins a moment longer than can be helped. When he gets sun or air baths, take off his napkin as well as his clothes and allow the sun and air to get to the skin. This is an excellent help in preventing sore buttocks.

The care of the buttocks then lies in: (1) Thorough washing, rinsing, drying and airing of the napkins; (2) Frequent changing; (3) Careful cleaning and drying of the buttocks after every motion; (4) The avoidance of rubber knickers and rough, bulky napkins; and (5) The occasional exposure of the skin to the sun's rays.

The treatment of the minor degrees of the red, rough, chapped skin exactly comprising the napkin area and due to irritation from wet napkins will be clear from the preceding remarks. In severe cases, which are mostly due to ignorance and neglect, it will be best not to allow any soap and water to touch the inflamed skin. This means no baths for perhaps a week, the baby being gently cleaned up after a motion with a little olive oil or liquid paraffin. Pads of cotton-wool can be placed next to the skin and Harrington's squares substituted for Turkish towelling. In addition, the baby should be put face downwards on a large rug with no clothes on

and the sun and air allowed to help in healing the skin.

In other cases the skin is irritated by loose diarrhœal motions rather than by wet napkins. The treatment is much the same. In addition it is essential to treat the diarrhœa, and this will probably require revision and adjustment of diet; and since the loose watery motions are very irritating to the skin, it is advisable after cleaning the buttocks carefully to apply a little cold cream, zinc cream, or white vaseline.

There is a third condition, quite distinct, known as ammonia rash. Over the napkin area are found small red spots, sometimes also small superficial ulcers, sometimes even little pustules. In long-standing cases the skin becomes wrinkled like parchment, and of a coppery colour, and there may be tiny scars where some of the spots have healed up. The mother will usually say that when she takes off the baby's napkin she is overpowered by the reek of ammonia; sometimes, however, she will forget to mention this, and then the diagnosis may be in doubt until she is asked point-blank if she has noticed the smell of ammonia.

In addition to the rash, which is often quite trivial, small boys who are circumcised may develop a small ulcer at the tip of the penis, just inside the entrance to the urinary passage. (In uncircumcised boys the ulcer is at the end of the foreskin.) The ulcer is covered with a tiny scab which effectually seals up the passage. Every time the child passes water, this scab is pulled off and the ulcer opened up, and there may be a little bleeding. All this is very painful; so that he cries every time he passes water.

The treatment is as follows:—

1. Make sure that the napkins are all right, that they have been properly washed, rinsed, dried and aired; for often the trouble is due, partly at any rate, to traces of soap or soda left behind in the napkins.

2. See that the baby's napkins are changed often enough; for ammonia rashes occur far more in babies who are neglected than in babies who are properly cared for. One point needs mention here. The 10 p.m. feed is usually dropped when the baby is 11 or 12 months old; many mothers will then stop lifting the baby at 10 p.m. and stop changing his

napkin. This is wrong. The baby may sleep from 6 p.m. to 6 a.m. perfectly well, but he is sure to have been lying in sopping napkins most of the night. He should not go as long as 12 hours. Change him at 10 p.m. and change him again as soon as he wakes, and don't let him lie in wet napkins for longer than you can help.

3. Babies with ammonia rashes usually pass motions that are too firm, often pale in colour and crumbling. Motions such as these occur when there is too much fat and protein in the baby's diet, too little sugar and starch. In young babies the common fault is giving a milk that is too rich in cream; the remedy is simple—dilute the milk and add a little more sugar. In older children other fats may be responsible—for example, butter, bacon fat, fried bread, or cod-liver oil. The principle is the same—reduce these fats and give more sieved fruits and vegetables, more starchy foods such as cereals and rusks.

4. Apply a little zinc cream or boracic ointment to the baby's buttocks, and to the tip of the penis, if this is affected.

With these simple measures the rash disappears rapidly. Even with quite extensive involvement of the skin and a small bleeding ulcer at the tip of the penis, it will only take about three or four days for a complete cure.

A final word of warning: if your baby by any chance *does* develop skin trouble, do not listen to the advice of well-meaning friends or believe the advertisements in the daily papers and use patent skin ointments, which are reported to cure almost anything from sprains to eczema. Many of these are directly injurious to a child's skin and may give rise to a troublesome dermatitis. When in doubt, ask your doctor or consult a skin specialist, privately or at the nearest hospital.

CHAPTER XIII

GOOD MUSCLES AND SOUND LIMBS

Good muscles and sound limbs are of vital importance. If ever a boy is to become well set up and firmly knit, good at games and sports, with a healthy body and mind and the prospect of a vigorous, active life before him, clean, straight limbs and good muscles are essential. Although it is quite true that occasionally a poor body is allied to an excellent brain, the bulk of first class work in the world is done by men and women who are physically fit. Throughout waking life there is never a moment when muscles are not in action, either in keeping the body in such upright postures as standing and sitting, or in active exercises such as crawling or walking. Except during sleep and in lying fully relaxed, muscles are always working, though some are used at one time, some at another. Care should therefore be taken to see that they are rightly used.

Now the architecture and shape of the bones depend to a large extent on the balance and tone of the muscles. What exactly does a doctor mean by the word "tone"? He has in mind muscles that are firm, supple and springy. Soft, slack, flabby muscles, whether large or small, he calls "atonic"—indeed, tone has nothing to do with the size of a muscle, for a large muscle may be atonic, while a small muscle can have perfect tone. Muscle tone is dependent on nervous control, and is abolished by nervous fatigue, so anything that weakens and exhausts the baby, whether it be prolonged dieting for some gastric upset, a long drawn-out illness such as whooping-cough, or continuous mental stress and strain, will lower his muscle tone. Knock-knees, bowed legs, flat feet, round shoulders and a prominent tummy are, in the last analysis, all due to poor muscle tone, to slackness and feebleness of the supporting muscles.

By now you will be asking yourself—What can I do to keep my baby's muscles perfect? The points that matter

most are proper food, proper exercise, abundance of fresh air and a happy life.

First as to the baby's diet. The baby should be breast-fed if possible ; if not, he should be given a straightforward fresh milk mixture, together with small amounts of orange juice and cod-liver oil, and mixed feeding should be begun early. A common mistake is to ply the baby with excessive amounts of milk and starchy food, largely because he takes them easily and they are cheap and easy to prepare ; but a diet that is mostly starch is a powerful factor in lowering muscle tone, for it tends to crowd out other elements in a baby's diet—protein, fat, vitamins and mineral salts—which are most important for good muscle tone. Many books on infant feeding still recommend far too much sloppy, starchy food—potatoes and gravy, groats, cereals, bread, porridge, milk puddings, etc.—and many mothers are most gratified with the results, for the baby puts on weight at a great rate and becomes fat, placid and good-natured. If you watch the weight chart of babies carefully you will commonly see the weight curve run roughly parallel to the normal until the baby is 8 or 9 months old : then starchy food is added to his diet and his weight soars up steeply, so by the time he is one year old his weight is 25 or 26 lb. instead of the usual 21 lb. When he should be standing and walking he finds it difficult, if not impossible, to support his great weight on a pair of small ankles, with only flabby muscles upon which to rely.

One child will give up trying to crawl and walk—in the language of the mother, when on the ground "he stays put" ; another will still get about in spite of a sagging tummy, round shoulders and knock-knees. Many structures of the body are involved in this bad dieting—muscles, bones, tendons and joints, so it is important to examine the whole child when he seems to have knock-knees or bowed legs or is late in walking. If a baby's weight, from being normal, suddenly increases, you should suspect at once that he has been overfed with starchy food, perhaps on a visit to a fond grandmother who wanted "to build up" the child with plenty of good nourishing milk, porridge and milk puddings.

All living tissues of the body will grow and develop properly only if they are exercised and used to the best of their

powers. Underwork results in too little growth, while overwork gives rise to overgrowth. What is required is a nice balance between the two, and to strike this requires some experience and judgment. Now the aim of exercise is to produce just this *well-balanced* development of the various parts of the body, with good powers and good reserve. If exercise is to produce its maximal beneficial effects in the sound development of the body, it must not be applied spasmodically now to one part, now to another, without due appreciation of the needs of the body as a whole. Health means wholeness; and all parts of the body need exercise equally during early life. Exercise does much for the young baby. His muscles grow with active use, blood courses more freely through his veins, his breathing becomes deeper and more rapid, so that the whole development of his chest and lungs proceeds apace: his appetite is quickened, his digestion improved, his whole body works more economically. All healthy young creatures, babies included, have a natural desire for movement and exercise; lassitude, quietness and a tendency to sit still, which some parents seem to think natural to a child, should be regarded as evidence of sickness, physical debility or backward mental development.

Vigorous muscular exercise *in the open air* is, then, a necessity for young babies. Playing about indoors, whether it be in a living room or a nursery, is a very poor substitute for play in the open air. In fine weather, then, get your baby out into the garden for his morning's exercise. Put a mackintosh sheet on the ground, double up a rug on top of it, and let him lie and kick there to his heart's content. If the weather is bad, at least have the windows wide open while he is exercising.

For the first few weeks of life it is best to leave the baby to get a good grip on life and not to bother about exercise. He is not yet a going concern and he should be handled gently till the shock of birth is well over. This applies especially to premature babies and twins, and to babies that are born weak and feeble. Once this short period is over, exercising the baby should begin. The best time for this is just before his morning bath and again at tea time. See that all his clothes are loose, take off his napkin and let him lie

and kick about on your lap. Play about with him and talk to him, for babies thoroughly enjoy this and will laugh and chuckle with pleasure. One of the great advantages in having a baby dressed in short clothes from the very first is that it is easier for him to kick about with his legs; long clothes hamper and restrain his activity and they prevent cool air getting to his body. (It is high time, I think, that mothers should give up dressing babies in old-fashioned long clothes—they have nothing specially to recommend them. Indeed they have many disadvantages.)

Another time that you can exercise your baby is when he is having his morning bath. Put him in the grown-ups' bath from an early age, for there he can get more room for splashing about. Take hold of his two ankles with one hand and support his head and upper part of the back with the other and swish him gently up and down the bath. A baby enjoys this and responds at once by vigorous movements of his whole body. You can then let the water out gradually till his whole weight is resting on the floor of the bath. A quick cold sponge all over finishes off his bath and he is ready to be dried.

A baby learns to hold his head up steadily by the time he is about 3 months old, so when he is about 2 months old begin putting him on his tummy on the ground for a few minutes every day. In cold weather you can do this at tea time in front of the fire; while in sunshiny weather you can double up a rug out of doors on the grass and let him lie on that. Most babies are kept lying on their backs too much. Raising themselves on their hands to see better and arching their backs is splendid exercise and they are quick to learn to roll over and crawl. Lying on the tummy is actually a favourite position for many babies.

As soon as he can sit up well, buy him a folding play-pen. The best sort is one with a platform so that you can put it out in the garden in fine weather; or you can put a mackintosh sheet on the grass first, with your rug or blanket on top. From the age of 6 months onwards the baby should be in his pen all day except when he is having his morning sleep (when he should be lying in his cot or pram) and when he is being pushed out in his pram for an airing. (Babies should

not be allowed to sit in prams sagging over a strap, swaying about unsteadily.) Prams are used far too much. You will often see a baby of 10 or 11 months strapped into his pram soon after 10 o'clock in the morning, while his mother is busy about the house, and 11 or 11.30 she pushes him out in the pram for his morning's airing and he sleeps his hour. After dinner he is taken out in the pram once more till tea time; and from tea time till he is bathed at 5.30 he is allowed to play about on the floor. This is all wrong. Such a child is getting next to no exercise: he would be far better playing about in his pen in the garden, trying to pull himself up by the bars, trying to crawl, reaching out for toys. It is usually quite easy to guess when a baby is being over-prammed. In the first place he is very backward at standing. When held under the armpits and stood on his feet he makes no attempt to support his own weight, but simply cocks up his legs underneath him as if he were sitting. Secondly, a baby that is over-prammed usually develops a bad temper. Baulked of his natural wish to walk and stand and pull himself up, he gives vent to his feelings by grizzling or tears, by refusal to do what is expected of him; while once he is allowed plenty of exercise he soon becomes sunny-tempered and easy to manage once more.

The earlier a baby is laid on his tummy the quicker he will learn to crawl. Crawling is fine exercise: it develops nearly all the baby's muscles, both of his arms and legs and back, and it develops his growing sense of initiative and self-confidence.

At what age should a baby be allowed to stand? Consider the general principle that no muscle should be constantly exercised far in advance of its natural time of development. How does this apply? There are some who hold that since the baby cannot usually stand until he is 10 or 11 months old, no attempt should be made to teach him how to stand before this age. They maintain that there is a serious risk of bowed legs if he learns to stand at an earlier date. The last statement I believe to be absolutely untrue. The child that is likely to become bandy is the fat, heavy, overweight child that has never been allowed to stand, but is kept lying in cot or pram most of the day. With a figure

like Humpty-Dumpty he has to support a huge body on a tiny pair of ankles, and his legs simply give under the strain. The principle is, I think, perfectly right, but observe the word "constantly." All muscular movements should be learnt by small beginnings, with a *gradual* increase in their range and power, just as an athlete learns to run slowly before he can sprint. I see then no reason why a young baby should not learn the feel of his feet on his mother's lap from the second or third month. At first she should hold him so that she is supporting all his weight, leaving him free to kick out with his legs. Soon he will find he can jump up and down on his mother's lap, which is great fun for him. There is no question here of *forcing* him to stand: once shown how to do it he will go on and on jumping up and down and enjoying himself.

Exercise is best taken early in the morning and again in the cool of the evening. Dawn and dusk seem the times when babies, like all other young creatures, frisk and frolic about most, while at noontime all Nature is hushed—babies are slack and drowsy, cattle sleep under the hedges and birds will not sing. So follow Nature and let the baby play about in the early morning and evening, with a nap at midday.

When you go to the seaside in the summer, put the baby in a shallow pool or on the edge of the water when the tide is coming in and let him make friends with the sea in his own good time. Don't take him out in your arms into deep water unless he obviously enjoys it; for a baby is easily scared, and if you persist he may grow up with a bitter fear and dislike of the sea. Salt water and sea air brown the baby's skin rapidly, so take extra care if your baby has not had much sun and air on his skin before he goes to the seaside, otherwise he may blister. Much of a baby's bad temper and sleepless nights while at the seaside are due to over-exposure to sun and air.

We come then to the general conclusions: firstly, that the baby must be considered as a whole; and, secondly, that lack of muscle tone is responsible for most of the troubles that affect the limbs. We have now to consider briefly a few of the common defects.

Flat Foot

Every baby when he starts to walk walks with his feet planted flat on the ground, and it is only as time goes on and he becomes more expert at walking that the large calf muscles hollow the sole of the foot to form an arch. This type of flat foot is then natural and needs no treatment —all babies have it at first: most of them will develop an arch naturally later on, while the few who do not, whose feet remain obstinately flat, will never have a proper arch to their feet, however much treatment they may receive. There is another, quite different type of flat foot, where the baby stands and walks with his feet flat on the ground, bearing the bulk of his weight on the inside of his ankles. Here the trouble is due to poor muscle tone of the muscles supporting the arch of the foot. The old idea that ligaments kept up the arch is now generally abandoned, and it is realised that the important structures are *the muscles*, that the ligaments are mere sentinels on guard against sudden emergency, richly supplied with nerves which enable them to call quickly for help from the muscles when they are temporarily off duty owing to sleep, fatigue or illness.

Good muscle tone, then, is all-important. Flat foot is often secondary to knock-knee, for if the line of the knee is wrong it takes tremendous muscular effort to keep up the arch of the foot. The young baby with knock-knee instinctively takes the strain off the inner side of the knee and foot by walking in-toed. Treatment lies in restoring the tone of the muscles, not only of the legs and feet, but of the whole child by proper dieting, plenty of exercise and fresh air. If he is now beginning to wear shoes, they should be light and flexible and they should fit the heel snugly, and until the muscle tone is much better the inner sides of both heels should be wedged one-sixteenth to one-eighth of an inch.

Knock Knees

The baby's weight must be watched carefully, for if he gets too heavy and the ligaments of the knee joint become lax, knock-knee may develop. The same principles of treatment apply—proper dieting, exercise, fresh air and wedged shoes.

Bow Legs

All babies are born into the world with a certain amount of bowing of the legs due to their bent-up posture in the narrow confines of the womb. With some the legs have become straight by the time they are a year old, with others the lower part of the shins shows some inward curvature for another couple of years, and then the legs gradually become straight. This condition is quite natural and demands no treatment whatsoever beyond seeing that the baby's muscles remain firm and supple. But if he pines and wastes and his muscles lose their tone, this natural bowing will become worse, and then you should call in a doctor.

CHAPTER XIV

MINOR AILMENTS

Colds

HEALTHY babies, properly fed and properly cared for, rarely get colds: so if your baby *does* get a cold, stop and think why this has happened. Almost certainly you will find you have been breaking one of the main laws of health—not giving him enough fresh air and sunshine, not allowing enough exercise and so forth. If the baby has a series of colds, very likely he has caught them from a grown-up—perhaps a nurse with persistent nasal catarrh, in which case get the nurse to see her doctor and send her off duty for a few days. Nobody with coughs, colds or sore throats should ever look after a young baby. The treatment of colds is simple. If the baby is breast-fed, see that his nose is cleaned out well before each feed with spills of cotton-wool dipped in weak boracic lotion: he will then be able to take the breast without difficulty. If he is bottle-fed, cut down his feeds a little and give him rather more water for a day or two. Do his nose with boracic lotion before the feeds. There is no point in keeping him indoors. See that he is properly clothed and put him out on the balcony in his cot, for he needs plenty of fresh air if he is to get rid of his cold quickly. Even if he has a slight temperature he is best out in the open air.

Constipation

As we have already said, the word "constipation" has two quite different meanings: (*a*) infrequent motions, and (*b*) hard motions. It is important to discover which the mother means when she says her baby is constipated, for each demands its own particular treatment.

In the Breast-fed Baby. *Infrequent Motions.* The first essential is to make sure by weekly weighings and, if neces-

sary, by test weighings over 24 hours (see p. 58) that the baby is getting enough breast milk. He needs on an average 2½ oz. of breast milk daily for every pound of his body weight. If weighing shows that he is being underfed, turn at once to the instructions given in Chapter VIII; if he is having enough milk and gaining regularly, wait quietly. Often a baby will gain steadily on the breast and have 1–3 good motions daily: then perhaps for a few weeks the motions will drop to one every 2–3 days in spite of excellent gain. Probably the explanation is that the supply of breast milk has dropped for a while to the lower limits of normal and the baby is absorbing all the milk, leaving little or no residue. *As long as the baby is gaining steadily, never give a purgative.* Despite what the advertisements in the daily papers would have us believe, constipation, meaning by that infrequent motions, does no harm—indeed many doctors hold that the abuse of purgatives is responsible for most of the so-called symptoms of constipation. It is quite impossible to tell from a baby's general condition and behaviour that he is passing infrequent motions. Babies rarely if ever show signs of "auto-intoxication": they are not fretful, they show no signs of colic. All that is necessary is to see that the baby has enough water every day, that he is not being over-clothed and getting rid of so much water as sweat, and that he is having his orange juice regularly, from 2 teaspoons to 2 dessertspoons daily.

In some cases the constipation dates from birth. If so, it is well to call in the family doctor, for the root of the trouble may be some congenital malformation or disease of the gastro-intestinal tract. This is particularly likely if the baby also has attacks of vomiting.

Hard Motions. Some babies, especially large, fat, lazy ones, have sluggish bowels: the motions are retained too long and become dry and hard. The child has to strain to pass a motion and this gives rise to considerable pain and sometimes to slight bleeding. The principles of treatment are simple. Give the baby a teaspoonful of liquid paraffin night and morning steadily for a few days until he can pass his motions easily without pain or straining; then reduce the dose to ¾ of a teaspoon night and morning for a few days,

then ½ a teaspoon and so on, until he is taking no paraffin. This is the right way to give all laxatives—to give enough to get a definite result and then to decrease the dose steadily as the bowels are trained back into regular habits. Obviously the single dose of physic on Saturday nights is senseless, for it does not get the child into good habits : he becomes gradually constipated during the week and then has a large action at the week-end. The whole aim of treatment is to get the child's bowels regular and then to give up all medicine.

The only other laxatives that should be given to a young baby, apart from liquid paraffin, are milk of magnesia or fluid magnesia. The dose is ½–1 teaspoon, once or twice a day, depending on the age of the baby, the severity of the symptoms, and so forth. Castor oil should never be given, while enemas and suppositories are mentioned only to be condemned. All are far too drastic—none of them train the baby back into regular habits.

Weigh the baby every week, or test-weigh him for 24 hours, to make certain he is not being underfed. If so, see Chapter VIII. Many babies will have hard motions if they are kept exclusively on a milk diet, so begin fruit pulps and vegetable purées at an early age—when the baby is 3–4 months old and weighs about 14–15 lb. Apple sauce, prune pulp and raw tomato pulp are all excellent : start with 1–2 teaspoons immediately before the 2 p.m. feed and increase gradually up to 2–3 dessertspoons. Other natural laxative foods are honey, butter and potatoes. Sometimes a few teaspoons of potato in its jacket mashed up with a little butter will put things right, sometimes small doses of malt extract.

In many cases the root of the trouble lies in the general handling of the baby. Often he is being heavily overclothed and kept too long in his pram every day : all he needs is more exercise in the open air to tone up his abdominal muscles and the constipation vanishes.

In the Bottle-fed Baby. *Infrequent Motions.* The same principles apply as in the case of the breast-fed baby : make sure first that the baby is getting enough food and enough water, for the trouble may simply be due to underfeeding. Then consider the baby's milk mixture : a common cause of

infrequent motions is a milk mixture that contains *too much milk and too little sugar*. Many mothers are almost ashamed to admit that they add sugar to the baby's bottles : on being questioned directly by the doctor they will say " Only a quarter of a teaspoon," and change the subject hastily, as if to give sugar were a confession of weakness. Some babies can take two-thirds milk, even whole milk, without added sugar, yet never suffer from constipation ; others will only be regular if they have sugar in their feeds. One level teaspoon daily for every pound of the baby's weight is not too much : this works out at 2 dessertspoons to the pint of two-thirds milk mixture (see p. 90). The best sugar to use is ordinary brown Demerara sugar : many babies that are constipated on mixtures sweetened with lactose, glucose or dextrimaltose will become regular as soon as these are replaced by brown sugar.

The instructions on tins of dried milks are not suitable for many babies. When the milk is reconstituted by adding the powder to water it is to all intents and purposes whole milk. Unless the dried milk mixture is diluted a little, as recommended on p. 92, and sugar is added, a considerable proportion of babies will have infrequent motions. Broadly speaking, milk is constipating and sugar is relaxing.

If the baby is on a humanised milk mixture there is less chance of constipation, as sugar has already been added to the powder.

Don't make sudden changes in the baby's diet—in the hopes of finding something that will " suit " him : probably a few minor adjustments are all that is necessary. If his diet has been wrong, don't expect to see great changes in a day or two. These things take a little time.

The treatment is straightforward : (1) See that the baby is getting enough food and gaining steadily on it ; if not, give more ; (2) See that his milk mixture contains enough sugar—about 1 level teaspoon daily for every pound of his weight—and not too much milk ; (3) Give plenty of water and orange juice ; (4) See that he is having enough exercise and is not overclothed ; (5) Don't fuss unduly, unless the symptoms are of long standing, in which case call in your doctor.

Hard Motions. For this treatment, see the previous section and the section dealing with hard motions in the breast-fed baby.

Diarrhœa

Diarrhœa in the Breast-fed Baby. First of all it is essential to have some clear idea of what is meant by diarrhœa. Consider the following four cases :—

(*a*) A breast-fed baby who has been gaining weight steadily for a month or two, and has as a rule one yellow motion a day, suddenly passes 3–4 loose green motions. This is diarrhœa and should be treated as such.

(*b*) A baby of a month old has a small, greenish motion each time he is put to the breast. This has always been his habit, or at any rate his motions have always been irregular and liable to be green and curdy. His weight curve is unsatisfactory, his general condition below par. This is *not* diarrhœa : starvation and water feeds, as recommended below, will only do harm. What the baby urgently needs is to be test-weighed for 24 hours. For a fuller discussion of this type of case, see p. 80.

(*c*) A baby, fully breast-fed, has an occasional green motion, but he is gaining steadily and does not appear to be upset by it. No treatment is necessary. Half the breast-fed babies in the world will occasionally pass a motion that is " abnormal," greenish in colour, perhaps containing curds and mucus.

(*d*) A breast-fed baby who as a rule has one normal motion a day begins to have 3–4 apparently normal motions a day. As long as he is not gaining excessively, this may be neglected ; but if he is putting on a lot of weight the probability is that he is getting too much breast milk and needs less time at the breast. Test-weighing will show the true state of affairs.

The commonest cause of diarrhœa in a breast-fed baby is an acute infection. This may be an infection of the gastro-intestinal tract itself, conveyed perhaps by unboiled water, by washing out the baby's mouth, or by a dummy : or it

may be an infection of some other part of the body—a bad cold or sore throat, an acute inflammation of the lungs or kidneys, or an infectious fever such as measles. Teething does *not* cause diarrhœa: if the baby develops diarrhœa while he is cutting a tooth, the cause is nearly always an unsuspected infection of the nose or throat. "Summer diarrhœa" does not usually attack breast-fed babies; when it does, the mother usually has been heavily over-clothing the baby and keeping him in a stuffy, airless room. This so saps his vitality that quite a small infection is then enough to give him diarrhœa.

As regards prevention, the baby should be kept away from anyone who has a cough, cold or sore throat. If it is the mother who has a sore throat and she has to breast-feed the baby, she should wear a handkerchief across her mouth and nose as a mask while she is feeding him. The baby's drinking water should always be boiled. In the summer months it is important to keep the baby cool: he need not wear much more than an Aertex vest and a napkin, and he should spend most of his time out of doors. A cool, shady place should be chosen for him during the heat of the day.

As for treatment, this should be as follows:—

1. Put the baby to bed and take his temperature regularly at 10 a.m., 2 p.m., and 6 p.m. If it is over 101° at any time, or if he seems ill, call in your doctor.

2. Keep the baby comfortably warm. If he feels cold, put hot water bottles in his bed and give him an extra blanket. If he has a temperature and seems hot and uncomfortable, give him a cool sponge down, change his nightclothes and put on rather fewer bedclothes. (One mother, told over the 'phone by her doctor to keep the baby warm in bed till he arrived, piled on the bedclothes and put in hot water bottles, in spite of the fact that the baby had a high temperature and it was the hottest day in August!) Keep the baby out in the open air as much as possible, on a balcony, on a verandah or under a tree in the garden. Fresh air is very important. If the weather is hot, find a shady place for the baby; if cold and windy, choose a sheltered spot out of the wind and wrap him up well.

3. Give no purgatives whatever, especially castor oil, without your doctor's advice.

4. Give plenty of cold boiled water, as much as the baby will take.

5. Omit 2 or 3 breast-feeds and give water feeds instead: then put the baby back to the breast. Stop all other foods the baby may be having—orange juice, cod-liver oil, rusks and butter, fruit pulp, vegetable broth, etc.—until the diarrhœa has gone, then begin them again very cautiously. Babies with diarrhœa have difficulty in digesting fat, so butter and cod-liver oil should be the last things to be restored to the diet.

Diarrhœa in the Bottle-fed Baby. The same reasons for diarrhœa apply as in the case of the breast-fed baby, but in addition there are two other very important causes of diarrhœa: (1) Diarrhœa due to contaminated milk; and (2) Diarrhœa due to an unsuitable milk mixture.

First as to prevention: *All milk for babies should be boiled.* Raw milk is always risky, especially in hot weather; while pasteurised milk, even if it comes from a large and reputable firm, is not entirely safe. If the home conditions are such that it is practically impossible to keep fresh milk, it is better to play for safety and use dried milk. It is most important that milk after boiling should be put into a jug, previously boiled, covered up and kept in a cool place, otherwise it may be infected by flies or dust. Suitable milk mixtures have been already discussed in Chapter VIII.

As to treatment, this is as follows:—

1–4. These are exactly the same as in diarrhœa affecting the breast-fed baby (see previous section).

5. Stop two or three bottle feeds and give water feeds instead. In mild and early cases of diarrhœa, start the baby off after a 12 hours' rest on a half-milk and half-water feed with 1 dessertspoon of brown sugar to the pint. Give ½–1 oz. less than his usual feed. Continue with feeds of this strength for 1–2 days, gradually getting the baby back to his full amount; then change over to the usual two-thirds milk mixture, finally adding the full quantity of sugar—2 dessertspoons to the pint.

In moderate cases of diarrhœa, after 12 hours' rest, start

the baby off on half-milk and half-water, with 2 dessert-spoons of dextrimaltose to the pint: give about two-thirds of this usual feed, *i.e.*, about 4 oz. instead of 6 oz. Gradually get him back to his full feeds during the next 2–3 days; then change on to two-thirds milk with the same amount of dextrimaltose; and after one week, go back to the usual brown sugar instead of dextrimaltose.

If the case is severe from the outset, or the baby doesn't obviously improve within 24 hours, call in your doctor at once. The younger the baby the more urgent the need of proper treatment, for within a few hours diarrhœa may become very serious. Meanwhile stop all feeds and give nothing but plenty of boiled water or a weak salt solution—½ teaspoon of salt to the pint of boiled water.

Diarrhœa in the Baby on Mixed Feeding. The general principles of keeping the baby in bed, keeping him warm and allowing him plenty of fresh air, have already been discussed. Nothing but cold boiled water should be given for 24 hours. In the mild or moderate case, milk and water in equal parts may be started next day, and if the baby is obviously improving and not satisfied with this, dry rusks or hard-baked crusts, cream crackers or a sponge finger may be added. There is one food which is extraordinarily valuable in checking diarrhœa in babies over the age of 9 months, namely, raw apple pulp. The apples are peeled and cored, then rubbed to a pulp on an ordinary grater; the baby takes about 2–3 oz. of this pulp at breakfast, dinner and tea. (In Switzerland banana pulp is often given with similar results. It is important that the bananas should be very ripe—*i.e.*, with an outside skin that is going black, the inside beginning to go soft.) Stewed or baked apples may also be given, though the results are not quite so striking.

Fat is the most difficult article for the baby with diarrhœa to digest, so milk should be well diluted, butter used sparingly and eggs entirely avoided. A baby of 9 months getting over diarrhœa should have a diet somewhat on the following lines:—

On Waking: A hard baked crust with honey but no butter; the juice of an orange.

Breakfast : Cereal (Force, Post-Toasties, etc.) with very little milk and sugar ; 2–3 oz. of apple pulp ; a piece of toast and honey ; cup of milk and water in equal parts.

Dinner : Clear soup or broth, with toast ; baked apple and a sponge finger.

Tea : Plain Madeira cake ; cup of milk and water in equal darts.

10 *p.m. Feed :* Bottle of milk and water in equal parts.

After a few days, mashed potatoes, vegetable purées and milk puddings can be added to the diet, then boiled or steamed fish and so on, till the baby is back on his usual food.

Always call in your doctor if the baby seems really ill or if the diarrhœa persists in spite of reasonable care and dieting. Don't give any medicines—in particular, no castor oil —without your doctor's advice.

Any infection saps the baby's vitality and exhausts his supplies of iron and vitamins, so as soon as he is soundly recovered he will probably need an iron tonic and additional cod-liver oil.

Vomiting

First you should distinguish between vomiting and mere posseting due to overfilling. If a baby takes rather too much milk he is liable to bring up a mouthful or two after each feed. This is of no great importance, though sometimes it may become a nuisance. The child that possets thrives. It is only necessary to cut down the feeds if the baby is gaining very fast.

Vomiting may be due to many causes. Some of these are trivial and can be dealt with safely by the mother—for instance, the baby may vomit a whole bottle-feed simply because it is too hot or too cold. But vomiting may be a serious symptom, especially if it is repeated, and then it is wise to call in a doctor. Babies of a few weeks old sometimes suffer from a disease known as " congenital pyloric stenosis," characterised by repeated and very forcible vomiting. Most babies with this disease can be put right by immediate operation, so it is essential not to waste time

trying many different sorts of food in the hope of finding something that will agree with the baby, but to send for your doctor at once. Vomiting may occur at the onset of *any* acute infection, either of the intestinal tract or of any other part of the body ; it may also occur at the onset of infectious illnesses such as measles and chicken-pox. If the baby seems hot or ill, take his temperature at once, put him to bed and send for the doctor. As regards diet, give nothing except boiled water for the next one or two feeds. Don't give any medicines.

A baby will vomit if he is given unsuitable food, whether it be a milk mixture or solid food, so stop and consider the baby's diet—has he taken anything that might disagree with him ? For instance, if the baby has been away in the country he may have been given milk from Jersey cows : this is very rich in cream and many babies cannot tolerate it. A baby may vomit if his feed has been given too fast or too slowly, so see that the hole in the teat is the right size, that the baby is not gulping down air mixed with milk and being sick in consequence. Keep the baby quiet while you are feeding him. Don't jog him up and down on your lap afterwards for this is quite enough to make many babies sick.

Wind

Wind is simply swallowed air—it has nothing to do with the fermentation of food. Every baby when he takes the breast or a bottle sucks down about two-thirds milk and one-third air, and if he gulps down his feeds very quickly he may swallow as much as half air and half milk. It is essential that the baby should bring up this air—or, as we call it, " bring up wind "—otherwise the bubbles pass through the intestinal tract and give rise to colicky pains. See then that your baby does not take his feeds too quickly. If he is inclined to take the breast too fast, give him sips of cold water first to take the edge off his appetite ; take the breast gently away from him from time to time and force him to take a few breaths. Small doses of sedative before each feed may be necessary if he is still inclined to take his feeds too quickly. Sit him well up after the feed, hold him

over your arm and pat his back gently to bring up the wind. This may take a minute or two, but it is absolutely essential, even after the 10 p.m. feed.

If a bottle-fed baby is constantly getting wind and you are sure that he takes his feeds at a reasonable speed, and the hole in the teat is the right size, his diet should be reviewed. He may be getting too much sugar or fat, perhaps too rich a milk; or he may be getting constipated and need less milk and more sieved fruit and vegetables.

If the baby swallows so much air as to get colicky pains, sit him well up and rub his stomach gently. If that does not relieve the pain, try lying him face downwards on a rubber hot water bottle, half full of fairly hot water. Ten to fifteen drops of brandy in a teaspoon of warm water are often most useful. If all else fails, a warm bath may bring relief.

Hiccups

If the baby takes his feeds too quickly, or the feeds are given too hot or too cold, he may get hiccups. The right thing to do is: (1) To give him his feeds more slowly and at the right temperature; (2) To sit him well up after the feeds; and (3) To give him 10–15 drops of brandy in a teaspoon of warm water.

Tongue-tie

Occasionally a baby is born with a small band binding the under surface of his tongue to the floor of his mouth. The practice of snipping this small band with scissors is to be deplored, for it almost never gives rise to trouble in later life. It is much better left alone.

Thrush

Thrush is an infection of the delicate lining of the mouth. Small white patches appear on the sides of the mouth, and on the palate and tongue, sometimes painful enough to prevent the baby taking his feeds well. In all cases the infection is introduced from without—sometimes by the mother washing out the baby's mouth after feeds, which is quite

unnecessary; sometimes by the objectionable use of a dummy; sometimes by a teat which is not clean. Prevention then lies in never cleaning out the baby's mouth, never using a dummy, and if the baby is bottle-fed, making sure that the teats are absolutely clean. Treatment consists in cleaning out the baby's mouth after each feed for a few days with sterile gauze dipped in glycerine and borax.

Teething

Healthy babies usually cut their teeth without any difficulty; but some babies of nervous temperament have transient upsets every time they cut a tooth, particularly a back tooth. In the past all sorts of childish ailments were attributed to teething—diarrhœa, ear discharge, cough, convulsions, etc. This was a dangerous practice, for it sometimes lulled the mother into false hopes that the illness was trivial, that nothing need be done, that all would be well once the tooth was through; and many babies certainly became seriously ill before it was discovered that teething was *not* the cause of the symptoms, that the baby was really suffering from an acute infection.

This was followed by a swing to the opposite extreme: doctors began saying that teething produced nothing but teeth, that teething was a normal physiological process, that it was only a matter of chance if any disturbance arose while a baby was cutting a tooth. After all the baby cut 20 teeth in 2–2½ years, and by the ordinary laws of chance, they argued, he might have a severe cough or cold exactly when he happened to be cutting a tooth. Teething was physiological: how then could it give rise to signs of disease? But then pregnancy and a woman's monthly periods are said to be "normal and physiological," yet no one would deny that quite serious disturbances may arise.

The truth probably lies midway between these extremes. The baby may be flushed and feverish when he is cutting a back tooth: a temperature of 101°–102° for a few hours is not uncommon. He stuffs his fingers into his mouth and screws up his face as if he had sudden twinges of pain. He dribbles more, his appetite is capricious, he is restless, fretful and out

of sorts. He sleeps badly, he fails to gain weight, or gains perhaps only 1–2 oz. instead of his usual 6–7 oz. a week. Any of these symptoms may occur a short time before the tooth appears, and be greatly relieved once the tooth is through. In addition it seems certain that there is a general lowering of vitality during teething ; that there is a tendency to relapses of bronchitis, gastro-intestinal upsets, eczema, and so forth.

One or two practical points arise from this :—

1. Don't regard teething as the cause of sudden fever in a baby without excluding every other possibility.

2. Take extra care of the baby during his teething troubles, particularly if his general condition is below par.

3. See that his food is given well mashed up, that there is nothing to irritate his gums ; and humour his whims. If he refuses a meal or two, it will do him no harm : he will eat more to make up for it once the tooth is through. Forcing him to eat at such a time is cruel.

4. Small doses of sedative may help the pain and sleeplessness considerably.

Choking

Don't lose your nerve. Put your fingers into the baby's mouth and try to remove the article. If you can't reach it, grasp the baby firmly by the waist, hold him upside down and shake him vigorously. If the article has been *swallowed*, inform your doctor at once, and save all the baby's motions for the doctor to see. *Don't give a laxative.* The vast majority of things swallowed will pass through the bowel quite safely. If the article seems to be in the baby's windpipe and if he coughs persistently, waste no time but take the baby at once to hospital.

CHAPTER XV

THE CARE OF TWINS AND PREMATURE BABIES

No book on the care of babies under one can be regarded as complete without some reference to twins and premature babies. The tinier the baby, the greater must be his fight for life. Although it is realised that the care of twins and premature babies, in the first few weeks of life at any rate, is rather the subject for a text-book for doctors and nurses, and this book is intended primarily for mothers, I have included this chapter so that mothers can take an intelligent interest in the care and upbringing of these tiny babies. They are not good subjects for hospital treatment, for there they are very liable to pick up infections which at this immature stage are always serious; so if the baby is not too small—small enough to require day and night nursing—and if the home conditions are good and he can be looked after steadily by a good nurse and doctor, keep him at home. Don't attempt too much on your own responsibility: nobody can bring up a premature baby really successfully without medical aid.

For all practical purposes a premature baby may be defined as a baby at birth weighing less than 5 lb. It also makes no difference whether he is born prematurely or whether he is born at full term: his birth weight is the deciding factor. Twins and triplets frequently weigh less than 5 lb. each, and so are to be treated in the way outlined in this chapter. If they weigh considerably more than 5 lb. they may be regarded as normal babies and brought up accordingly; if they weigh, say, 5½ lb. each, a judicious mixture of the advice given in this chapter and the chapters on the normal baby becomes necessary.

The fate of the premature baby depends on three main factors: (1) The proper regulation of his temperature; (2) His feeding; (3) The avoidance of infections. Many babies that die of "prematurity" could undoubtedly be

saved by careful attention to the details given in the following pages. Many babies can be saved that weigh as little as 2–2½ lb. Every effort, then, should be made to save a premature baby: if properly handled he will *not* grow up a weakling, with a poor body and brain. There is a picturesque story that at birth Isaac Newton was so small that he could be put into a pint pot. This may or may not be true, but it is certain that many men and women who have made their mark in the world were born prematurely. There is a famous saying that runs: "Many trifles make up perfection, but perfection is no trifle." This should be your motto in looking after premature babies.

The Proper Regulation of Temperature

Immediately after the baby is born, wrap him in a warm blanket and put him in a warm place. Weigh him quickly at the earliest opportunity but make no attempt to bath him, or even to oil him, until you have taken his temperature rectally with a subnormal thermometer. (A subnormal thermometer—see Fig. 5—is one that has a low limit of 88°

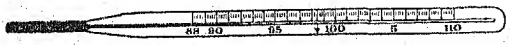


FIG. 5.

instead of the usual low limit of 95°. Your chemist will get one for you, or else you can get one from Allen & Hanbury's or John Bell & Croyden, Wigmore Street, W.1, at a cost of 2*s*. Any other thermometer is useless in doing careful work for premature babies.) Many babies are certified as dying from "prematurity," "congenital debility" and so forth during the first days of life when death is really due to the effects of cold. The premature baby loses heat very quickly after birth—in one of my cases the rectal temperature was 90·2° 12 minutes after delivery, although the baby had been wrapped up quickly in blankets—and unless this low temperature is recognised and treated promptly the baby's life is in danger.

If the baby's temperature is found to be 96° or more, oil

him quickly bit by bit in front of a fire, avoiding all undue exposure, then wrap him in gamgee and get him to bed quickly with three rubber hot water bottles, covered with flannel and placed between the blankets, one on each side of him and one at his feet. The temperature of these hot water bottles should be about 160°; the ones at the side should be changed alternately every 2 hours, the one at the feet every 4 hours. An incubator is quite unnecessary; excellent results can be obtained with any ordinary cot and hot water bottles if care is taken over details.

If the baby's temperature is less than 96°, do not even oil him, but get him into his cot quickly to prevent any further loss of heat. He can always be washed and cleaned up a few days later.

The smaller the baby the greater the risks of death, so if the child is very small—3½ lb. or less—and the parents can afford it, get a Thermega pad.* This is an electric heating pad which can be used from any standard electric light fitting, whatever the voltage. The pad has a regulator switch for 3 heats—100°, 130° and 160°. The 160° temperature should be used at first. The pad is arched over the infant between the enveloping blanket and the ordinary covering blankets. There is not the slightest risk if it is used in this way. (*N.B.*—It should never be placed *under* the baby, for if it gets wet there is some risk of a short circuit.) The pad is kept constantly at 160°, day and night, for the first week; if the child's temperature has then remained steady between 97° and 99° during the week, the switch is turned to 130° and the pad is used at this temperature for the second week. It should then be used at 100°, day and night, a few more days, and then perhaps at 100° for the nights only. By this time the baby will probably have learnt to regulate his own temperature properly and the pad will no longer be necessary.

Whichever method of keeping up the baby's temperature is used, whether hot water bottles or Thermega pad, the temperature should be taken rectally every 2 hours, day and

* The pad can be obtained from most of the big stores in London, or direct from the makers, Thermega Ltd., 53, Victoria Street, London, S.W.1. The present cost (1946) is £3 15s. 0d.

night, for a fortnight if the baby is below 4 lb., every 4 hours if the baby is between 4 and 5 lb. *It is very important to keep the baby's temperature between* 97° *and* 99°. It is not always easy to do this, especially in the baby's first ten days.

The dangers of overheating the baby by the use of a Thermega pad or hot water bottles are extremely slight, provided that the child's temperature is taken regularly and that steps are taken at once to lower it if it is found to be raised much over 99°. A temperature of 99·6° or 100° on one occasion might be ignored, but not if it was found at the next temperature reading. I have seen only two cases of overheating, both in the early days when the electric pad was being tried out. One infant, a very small premature child weighing only 2 lb. 1 oz., developed sudden fever, pallor and restlessness; breast milk was omitted for the next three feeds, water was given instead, and the electric pad was discontinued temporarily. Next day the baby was much better and the usual treatment could be resumed. The other baby, weighing 3 lb. 12 oz., was found one day to have a temperature of 104·2° and a heavy sweat rash over the body. In spite of the fact that it was summer and the weather was very hot, the nurse had still clothed the child in gamgee and piled on extra blankets and kept the temperature of the pad at 160°. The pad was discontinued permanently, plenty of water was given, the temperature fell rapidly and within a few days the rash had gone.

If extra blankets have to be piled on, see that they do not weigh down heavily on the child's chest: put a hand between the baby and the blankets and make sure they are not too heavy. Don't bury the baby at the bottom of his cot under a pile of blankets, but put a tiny bonnet made of cotton-wool or gamgee on his head and allow plenty of warm air to circulate freely around. Most premature babies are overclothed and overblanketed, and if kept down at the bottom of a cot do not get enough air. Use only a very soft, flat pillow, and change the baby's position in bed occasionally, laying him first on one side, then on the other.

The initial loss of weight in premature babies is much less than that of babies born at full term. The loss is more gradual, it reaches its lowest point at the 7th to 10th day,

TWINS

[*To face p.* 168.

He Learns to use His Hands

and it is often not until the 20th to 25th day that the birth weight is recovered. Feebleness, subnormal temperature and feeding difficulties are often at their worst between the 7th and 10th day : this is a critical time for premature babies. If this is not recognised and due care is not taken at this time, many premature babies will die that might easily have been saved.

On a sunny day the baby may be put out in the garden or on a balcony once his weight has reached 6 lb. If the weather is not hot enough for this, he can be put in front of an open window with a screen behind his cot. In cold weather he must of course be kept indoors in a well-ventilated room.

Feeding

If the baby cries vigorously and seems strong and lusty, weighing only a little less than 5 lb., he may be breast-fed like a normal baby of 7½ lb. He will do perfectly well, although you will probably need extra skill in getting him on to the breast. But what is to be done if he weighs, let us say, 3½ lb. and is too weak to take the breast ? What is the best milk to offer him, how often should the feeds be given and how much should be given at each feed ?

Type of Food

Breast milk should be given whenever possible. The smaller and the more premature the baby, the more vitally important is breast milk. Every effort, then, should be made to establish the mother's supply of milk and to keep up the supply by hand expression until the baby is strong enough to take the breast himself. (For details as to the establishment and re-establishment of breast-feeding, see p. 73.) If the mother's milk fails, every effort should be made to get expressed breast milk from another mother, even though it may be only a matter of a few ounces for a day or two. In London and other big cities breast milk can often be obtained by applying to one of the large maternity hospitals. Failing this source of supply, a mother with a surplus of breast milk can usually be found at the local infant welfare centre ; or the doctor may have in his private

practice a mother with plenty of milk to spare. Breast milk is all-important for these babies and no trouble should be spared to get it. It makes no difference whose milk it is. This milk, since it is not given fresh from the mother's breast, must of course be boiled. Breast milk should be given to a premature baby if possible until he weighs 8 lb.; if his mother is then still unable to feed him, he can be gradually changed over to artificial feeding.

Failing breast milk, the simplest and most suitable artificial feed is milk and water in equal parts with 1 oz. of dextrimaltose * added to the pint. Cane sugar, brown Demerara sugar or lactose may also be used, but they are not quite as satisfactory as dextrimaltose. Certified milk should be given if possible, otherwise the best milk available locally. Ten oz. of milk are brought to the boil and kept boiling for 5 minutes; 10 oz. of boiled water are then added, together with 2 level dessertspoons of dextrimaltose, and the whole is kept in a jug previously boiled until it is required. Perfectly good results can be obtained with this mixture if given in the proper amounts and at the proper intervals. It is quite possible to rear a premature baby on condensed or evaporated milk, on skimmed or half-cream dried milks, on humanised milks, or on the special dried milks prepared for premature babies; but, in my opinion, none of these has any advantages over the straightforward milk mixture recommended above, unless the home conditions are such that the use of a fresh milk mixture is impossible. Skimmed lactic acid milk or buttermilk mixtures also give good results, but these should only be used under strict medical supervision.

Amount and Frequency of Feeds

This is very important. Experience of the great variety of foods recommended for premature babies both in this country and abroad, many of which were mentioned in the previous section, makes it probable that the *quantity* of food given is the all-important factor in the successful rearing of the child, not the quality. *The common mistake is over-feeding.* Many premature babies are undoubtedly killed by

* Allen & Hanbury's No. 2 or Mead's No. 2.

too much food—they do not die merely because of their prematurity.

About 12 hours after delivery, start with a feed of 1 dram,* and give this 2-hourly day and night—12 feeds—if the baby is between 3½ and 4½ lb.; if under 3½ lb. start with ½ dram 2-hourly. Increase the feeds very gradually by ½–1 dram daily for the infant over 3½ lb., by ½ dram daily if under 3½ lb. The rate of increase must be determined by watching the effects of the feeds on the baby: if there is the slightest evidence of cyanosis (blueness) or refusal to take the whole feed or vomiting, reduce the amount to half and give the feeds hourly for a short time, reverting to the 2-hourly intervals next day. After 7 to 10 days the infant can usually be got on to 10 feeds daily, omitting the two night feeds at 2 a.m. and 4 a.m. If the baby weighs between 3½ and 4½ lb. he should be kept on 2-hourly feeds—10 feeds daily—for a week or two, then put on to 3-hourly feeds day and night—8 feeds daily—and a little later on to 3-hourly feeds—7 feeds daily, at 6 a.m., 9 a.m., 12 noon, 3 p.m., 6 p.m., 9 p.m., 11 p.m. These changes will of course be made at a later date if the baby weighs less than 3½ lb. at birth. If the baby weighs between 4½ and 5 lb. he can probably be got on to 3-hourly feeds day and night—8 feeds—from the start, and within a week or two on to 3-hourly feeds—7 feeds daily.

The exact amount and number of feeds depends, then, on three factors:—

(*a*) The birth weight.

(*b*) How the baby takes the feed. If he is always hungry and taking well, the amount can be increased steadily; refusal of feeds, vomiting and cyanosis (blueness) are the danger signs.

(*c*) The weight chart. If this is stationary for 7 days, increase the amount per feed cautiously.

A good rough working rule is that the baby requires 1 oz. of breast milk per pound of body weight daily for 3–4 days, 2 oz. per pound daily for the next 3–4 days, then 3 oz. per pound daily for the next 10–14 days.

* An accurate dram and ounce measure should be obtained at once from the local chemist. The teaspoon as a measure is too unreliable when dealing with a premature baby.

Apart from milk feeds, the premature baby needs sips of water or half-strength saline, *i.e.*, water with half a teaspoonful of common salt to the pint, during the first few days. When he has come to the 2nd or 3rd week of life he needs 2½ oz. of total fluid daily for every pound of his weight. If, for example, he now weighs 5 lb., his total fluids daily should be about 12½ oz. Supposing that he is only getting 10 oz. of milk in the 24 hours, he needs a further 2½ oz. of water during the day.

When the baby has reached 7 or 8 lb., he should be fed straightforwardly like a normal child. There are, however, one or two special points to be observed.

1. Premature babies are born into the world with a shortage of vitamins, iron and calcium, and so are apt to develop rickets, anæmia and defective teeth. Preventive treatment of these disorders of nutrition should therefore be begun at the earliest possible moment. Cod-liver oil in tiny doses—2–3 drops daily—should be given when the baby is about a month old and the amount should be increased steadily until by the time he is 3 months old he is taking a teaspoon a day. If the baby cannot tolerate cod-liver oil he should be given halibut liver oil or one of the patent vitamin preparations. A doctor's advice must be taken as to the most suitable preparation of iron. Quite early mixed feeding is advisable. All the foods given to the normal baby at the 4th or 5th months—egg yolk, tomato pulp, purée of carrots or spinach, bone and vegetable broth, etc.—should be begun at an even earlier age by the premature baby. They must, of course, be given in very small amounts at first and increased only with great caution.

2. The normal baby gains on an average 5–6 oz. a week during the first 4 months, after which time the weekly gain is about 4 oz. Once the dangerous first month is over, a premature baby will often gain 8 oz. a week steadily, with nothing but benefit. As long as his digestion seems perfect, no attempt should be made to reduce the amount of food he takes because theoretically he is gaining too fast. Actually the reverse : if he is only gaining 5–6 oz. a week it is good practice to increase his diet slightly. As we have emphasised in dealing with the normal baby, we must be guided by the

child's general condition rather than by any theory of infant feeding.

Technique of Feeding

The exact method of giving the feed varies with the birth weight, the general condition of the child and his ability to suck well. As a general rule, he must not be put to the breast for the first few weeks of life, for he has not the strength to take it properly; instead his feeds must be given either from a bottle, spoon or pipette. Premature babies weighing under 3½ lb. should be fed with a pipette or medicine dropper: a fountain-pen filler, sterilised by boiling, is a handy substitute. The baby is not to be taken out of his cot for the first week or two: the nurse's hand should be placed behind his back and head and the baby gently raised up a little way from the pillow. The feed must be given at the proper temperature—100°—and given slowly, allowing plenty of time for the baby to swallow. As soon as the baby has gained sufficient strength to suck well without getting tired, an ordinary feeding bottle may be used. The teat should have a large hole so that the milk flows easily. Premature babies weighing 3½ to 4½ lb. should be fed with a spoon, or from a bottle with a very easy teat, while babies of 4½ to 5 lb. will probably be able to take a bottle from the start and can be put to the breast quite soon.

If the baby is very drowsy and sucks badly, it may be necessary to resort to feeding *via* an œsophageal catheter for a few days; this, however, must be left to the doctor's discretion.

The Prevention of Infections

As a rule, the younger and smaller the baby the more serious the risk of infection, so nobody with the slightest cough, cold or sore throat should be allowed near the baby. The nurse should exclude all visitors from the baby's room, allowing just the parents to see him, and then only for a short time daily; and only when the child weighs 8 lb. should these precautions be relaxed. If the nurse develops a cold she should promptly be relieved from duty: continuing to work wearing a face mask at such a time is a dangerous half-

measure and should never be countenanced. The danger lies in the fact that with premature infants a cold very quickly extends to the lungs and ushers in a fatal broncho-pneumonia. So if at any time the baby seems chesty and is losing weight, call in your doctor *at once*. A great deal can be done to save life with the new drugs—sulphonamides and penicillin—as long as the baby is treated promptly and well.

Most premature babies after their initial loss begin to gain weight about the 7th day and do not regain their birth weight before the end of the 2nd week or middle of the 3rd week, but some never have any initial loss at all, and after a few days of stationary weight begin to gain slowly. In both cases, once the gain in weight has started, the baby should go forward steadily.

Two other points remain to be discussed—constipation and diarrhœa. Since the premature baby needs every ounce of food offered to him, he absorbs practically everything, leaving little or no residue. Since he has a motion perhaps every second or third day, an inexperienced nurse may think that he is constipated. It is of the greatest importance *not* to give the child any purgatives to counteract this, for they will only upset his digestion and sweep out so much available food. As long as the baby is gaining steadily, the number of motions he passes is of little importance, provided that they are not hard. As to diarrhœa, a distinction must be drawn between (*a*) the frequent passage of small motions in a baby that is otherwise well and gaining steadily, and (*b*) frequent, and perhaps large, motions in a baby doing badly. The former requires no treatment, while the latter urgently needs medical care.

CHAPTER XVI

MISCELLANEOUS

Vaccination

SHOULD a baby be vaccinated ? And if so, when and where should it be done ?

I am quite sure that *all* babies should be vaccinated in spite of the fact that smallpox in Great Britain has now (1946) become a mild disease. There is no saying when the disease in its severest form may not arise again : indeed, with the development of civil aviation, it seems likely that there will be increased cases of smallpox brought in from abroad. For example, India, a country where smallpox is common and severe, is now only a 3–5 days' journey by air from England ; and since the incubation period of smallpox is 10 to 14 days, it is quite possible for a passenger who has been in contact with a case of smallpox in Bombay to arrive in England and be steadily spreading the disease for several days before he himself develops a rash. Smallpox in young babies is usually very serious, while vaccination, if done at the proper time with due aseptic precautions, is free from risk and undoubtedly minimises the chance of getting the disease.

Fathers are apt to say that they don't believe in vaccination, usually without the slightest evidence to support their views. Sometimes they have been impressed by the anti-vaccinationist's arguments about "pouring filth into the blood" ; perhaps they have been shocked by seeing a child's arm disfigured by an ugly ulcer, usually due to faulty technique. But no one who has been in India and seen the ravages of the disease there can have any doubt whatever about the value of vaccination. In the Bengal smallpox epidemic of 1945, for example, large numbers of children and adults died ; many of those who recovered had their faces pitted and pocked for life, while others with pocks in their eyes lost their sight. And Bengal is only one province

of India. All missionaries and doctors who have worked in India, all hospitals, and the Army medical services are convinced of the great changes that vaccination has made to the incidence and mortality of smallpox in India ; and the same applies to all countries in the world where smallpox is rife. Every civilised country believes strongly in the value of vaccination, and their cases every year are few and far between. The reverse is also true : the less civilised a country, the less the vaccination, the more the ravages of smallpox. No child should ever go abroad, certainly not to the East, South Africa or South America, without being properly vaccinated well in advance of sailing. I have had to look after many cases of smallpox in unvaccinated Indian soldiers, I have seen severe cases, I have seen fatal cases, and to me smallpox is one of the most horrible of diseases.

Suppose a child has been vaccinated properly and re-vaccinated every 7 years and in time of epidemics, could he still get an attack of smallpox ? The answer is that it is many thousands to one that he will escape the disease entirely or get it only in a trivial form ; but, to be quite frank, there *are* rare cases where vaccination does not seem to protect, where the patient is overwhelmed by the disease before he can put up any fight. I want to emphasise that such cases are very rare, that they certainly do not invalidate medical opinion all over the world that vaccination prevents smallpox.

As a general rule see that your baby is vaccinated at about the 3rd or 4th month. Some maternity hospitals are in the habit of vaccinating a baby during the first week of life, often on the 3rd or 4th day. To my mind this is an indefensible practice. Breast-feeding is the baby's most urgent need at this time and nothing should be allowed to interfere with it : to give a baby a painful arm or one or two restless nights may be quite enough to disturb that even progression in breast-feeding which is so necessary. Of course things are quite different if there is a smallpox scare, in which case the baby must be vaccinated at once.

No baby should be vaccinated unless in perfect health. To vaccinate a baby that has a cough or cold, one that is under-weight or perhaps recovering from an illness, is to

court trouble. In particular, no baby with eczema or other skin trouble should ever be vaccinated until the skin has quite recovered. It is the *indiscriminate* vaccination of babies that brings the whole procedure into disfavour.

Vaccination both in boys and girls can be done on the back of the leg, 1 or 2 inches above the heel; or on the arm just below the shoulder, though the scar will be more conspicuous there. Vaccination high up on the thigh, sometimes done in small girls to avoid a visible scar, is quite sensible, provided that a 4-inch layer of Elastoplast is used over the dressing, otherwise with a young baby still wearing napkins it is difficult to keep clean and it is more likely to go septic. There is no need nowadays to vaccinate a baby in several places: one is considered enough. The exact method of vaccination must of course be left to your doctor. It "takes" usually on the 5th day. Boracic powder should then be sprinkled on generously every day and fresh sterile gauze applied. The baby should not be put into his bath until the scab has dropped off: in the meantime he should be soaped and sponged on his mother's lap.

As long as the vaccination is done properly and looked after carefully for 10 days, there is no reason why the baby should have any upset beyond possibly a mild temperature for 24 hours when it takes, and a slightly sore arm. Occasionally vaccination will take strongly—you cannot foresee these cases—but even these are quickly put right by proper medical care, and with such a strong "take" the baby's chances of ever getting smallpox are virtually nil.

Protection against Diphtheria

When the baby is 9–12 months old he will come into closer contact with grown-ups and other children, and so be much more likely to pick up infections. One of the most serious of these is diphtheria, which is still very apt to kill a child or leave him with a crippled heart and paralysed limbs. About 25 years ago a method was found of protecting children against this grave disease, and to-day diphtheria has been all but stamped out in countries where immunisa-

tion, as it is called, is widely practised. The method in use today (1946) is as follows :—

If the baby is perfectly fit, he should have his first intramuscular injection of A.P.T. * (0·3 c.c.) when he is about 6 months old. † One month later he is given a second injection (0·5 c.c.). These injections, if done quickly and aseptically with a sharp needle, are almost painless and are quite free from risk, and the results are very good—about 98 per cent. of children are protected against the disease. A further injection of 0·5 c.c. is usually given at the age of 5, when the child is going to school. The treatment is not expensive ; it can either be done by your doctor for a reasonable fee, or by one of the diphtheria immunisation clinics run by the borough councils, where the treatment is free.

Since 1940 diphtheria immunisation has made great strides in this country. There are 8½ million children under the age of 15 : about 5½ million of these were immunised in the years 1940 to 1944, and it is now quite uncommon to find parents who say they don't believe in it. It is *not* claimed that immunisation will certainly prevent diphtheria, for occasionally a new variety of diphtheria bacillus crops up and causes trouble, but it will certainly diminish its severity and lessen the risks of death. A few facts may serve to make the position clearer :—

1. Between January, 1942, and June 30, 1945, 3,635 children under 15 in this country lost their lives from diphtheria ; 39 out of 40 had never been immunised.

2. New York is a city with a population of 7,392,000. From the year 1920 to 1929 there were on an average 10,685 cases of diphtheria every year, with 704 deaths. An intensive campaign of diphtheria immunisation was begun in

* There are several good makes on the market : Parke Davis's can be thoroughly recommended.

† The Ministry of Health in its latest pamphlet (November, 1945) recommends that immunisation be done at the age of one, but already some of the larger and more progressive English cities are immunising babies earlier, between the age of 6 months and 1 year, for infants are *not* immune to diphtheria—in 1940, for example, 58 babies in England and Wales, all under the age of one, lost their lives from diphtheria. It is probable that soon after this book appears the Ministry of Health will recommend the earlier date.

1929, and it has been so successful that in 1944 there were only 242 cases of diphtheria, with 7 deaths.

In past years there have been epidemics in New York every 6 years, in Toronto every 4 years: on this showing there should have been epidemics in both cities between 1930 and 1940, but none occurred.

3. Big cities with poor immunisation have by far the greatest number of cases of diphtheria every year, and by far the most deaths.

Circumcision

Circumcision is the name given to an operation by which the foreskin which covers the top of a small boy's penis is cut away with scissors or a sharp knife, with or without an anæsthetic. In the vast majority of boys it is an operation that is unnecessary from a strictly medical point of view, one that has survived as a relic of Old Testament days when it was performed as a religious and tribal rite. Nature has endowed every boy with a foreskin, whose purpose it is to protect the delicate and sensitive mucous membrane lying beneath. Does it seem sane and reasonable then for doctors to recommend the wholesale removal of this natural structure? The operation, it is true, is usually trivial, though not always so—even in these days some babies bleed furiously enough to lose their lives from hæmorrhage: and many suffer considerable pain at a time when they are hardly established in the world, since they are operated upon in the first week of life—to my mind an indefensible procedure. The "arguments" given in favour of circumcision are not in the least convincing:—

1. It is said that a circumcised boy is more likely to be moral sexually; but all figures dealing with sex crimes and venereal disease show that this is not true.

2. It is said to be cleaner. Certainly the foreskin needs to be kept clean like any other part of the body; this merely involves retracting the foreskin very gently from time to time and washing the parts underneath with soap and water. The enthusiasts for circumcision maintain that this will call the child's attention unduly to his penis, with dire conse-

quences, but this is not true. No harm will result as long as the mother washes the baby's genitals in the same easy matter of fact way as she would wash his neck.

3. Sometimes the operation is said to be necessary because the foreskin is tight. It is true that occasionally the foreskin is so long and adherent and the opening so narrow that the baby cannot pass water freely.

Certainly something has to be done, but operation can still be avoided—gentle stretching once or twice with forceps will often put things right in a few days.

At birth the foreskin will often not retract completely—it is unnecessary that it should, as long as there is no obstruction to the outflow of urine. Some nurses make it their practice to retract the foreskin daily when the baby has his bath and the parts are warm from the water. This is reasonable enough, as long as the foreskin retracts easily: but sometimes it retracts only with difficulty and then the skin is apt to tear rather than stretch, and that is painful. Tiny fissures appear that bleed and heal with scarring, which means more stretching and more pain for the baby. It is better to wait till the child is older. There is no urgency—the foreskin will retract easily enough when the parts have grown larger.

If a doctor is asked for his professional opinion he is bound to say that operation is rarely necessary *on strictly medical grounds*. It is quite another thing if the parents wish it to be done on religious grounds.

Sometimes a doctor is asked to circumcise the baby during the first two or three weeks of life, since it is convenient to the parents to get the operation over while the maternity nurse is still in the house. This I think is wrong. The baby is hardly established in the world before he is subjected to a painful operation and painful dressings, and this is quite enough to interrupt that even progression in breast-feeding that is so much to be desired. His welfare should come first and the operation deferred till he is expert at breast-feeding and in excellent health. The exact time should be left to the doctor's discretion.

How to Travel with a Baby

1. Don't travel unless you must. The changes in diet and in the baby's fixed routine are liable to upset him, besides which there is the added risk of infection, especially on long journeys by train. On the other hand, babies usually travel by sea extraordinarily well: I know of babies under 3 months of age who have travelled out to China, India, South Africa, South America and the United States without the slightest upset. Young babies are rarely sea-sick, and many have travelled by air to France and Germany without difficulty. If the baby *must* go on a long journey, make your plans well in advance.

2. Ask yourself what the baby will need at the other end of the journey and pack all that you need in one suitcase. (Sometimes it is a good plan to send this on two or three days in advance.) Pack plenty of clean napkins so that there will be no washing for the first 24 hours.

3. On a train journey, the first thing you must consider is the baby's food. If he is breast-fed it is a good plan to ask the guard to put you into an empty compartment for the whole journey if possible; if not, at least for the breast-feeds. If he is bottle-fed, don't take with you warm milk in a Thermos flask. Take instead two or three bottles of a *dried milk* mixture made up in advance with cold boiled water, and take a small jug and a Thermos flask full of hot water. You can then heat up the bottle just before use by standing it upright in the jugful of hot water. Most babies get pretty thirsty on a long journey and need frequent drinks; never use the water on the train, but take your own cold boiled water in a second Thermos flask.

If your baby has reached the age when he is having mixed food for his lunch, don't take him into the restaurant car: the food there is usually quite unsuitable for young babies. Pack some tiny sandwiches, brown or white, made with honey, Marmite or bramble jelly, and perhaps one or two sponge fingers. This with milk is quite enough for any baby.

Most trains are overheated though draughty, so dress the baby lightly, and if he is under 4 months of age put him in a Moses basket. It is better to let him lie quietly in his Moses basket than to nurse him for long periods on your lap;

he will probably sleep quite happily for most of the journey. You will need a light shawl, plenty of napkins, soap, flannels and towels, and the baby's chamber. You can now buy gamgee napkins, which are thrown away as soon as they are dirty : these are a great boon on a long journey and should always be used if you are faced with 2 or 3 days on a train, as happens frequently in the United States or South Africa. If the baby is over 4 months of age, take with you a sleeping bag and let the baby sleep lying along the seat of the compartment. You need have no qualms if you have to go on a night journey, to Scotland, for example : babies usually sleep excellently on the train.

4. Sea journeys rarely present any difficulty : the baby can keep steadily to his usual routine and he thrives in the fresh sea air. Nowadays there is usually a stewardess who is very willing to lend a hand with the baby. If you are giving him a fresh milk mixture and you are going, let us say, to New York, you need not change the baby's feeds : the shipping companies will now take into cold storage in their liners all the milk you need for the voyage. This is perfectly safe and does away with the nuisance of changing the baby's feeds twice within a week. If, however, you are going to India, where the milk supply is quite unsafe and you will have to use dried milk, it is best to get the baby on to dried milk at least a week before the boat sails. Although ships going East usually carry dried milk, be on the safe side and take your own supply with you.

APPENDIX A

THE CHOICE OF A NURSE

The Maternity Nurse

A GREAT deal of the success of a confinement, particularly a first confinement, depends upon the services of a good maternity nurse, so it is worth while taking great pains to choose the right woman. Maternity nurses have two main duties: (1) the obstetric care of the mother, and (2) the training and care of the baby. In my experience it is much easier to find a nurse who is competent in dealing with the mother than one who is good at managing the baby. Nurses with a skilled knowledge of breast-feeding are unfortunately still rare, and since breast-feeding is so important it is best to get your doctor to recommend a suitable nurse for you. From his midwifery experience he will know which nurses are good both with mother and baby, and he will be able to select the one that suits your requirements best. This is a better plan than engaging a nurse who has looked after one of your friends or relations. Interview the nurse before engaging her, make sure you like her and have confidence in her. Get her to talk a little of her past experience and find out what views she holds on breast-feeding; for if your nurse is well-trained and a whole-hearted believer in breast-feeding, your troubles are mostly at an end.

If your nurse is of the type who is biassed against breast-feeding, who has no particular knack at getting a baby to the breast, who says with pride that all her previous babies have been brought up on such-and-such a patent food or milk mixture, your best plan is to get your doctor to have a talk with her; otherwise sooner or later you will find your baby bottle-fed.

Don't engage a nurse unless you like her and have complete confidence in her. A very great deal of your comfort and happiness in the week or two following the birth of the baby depends on her deft hands and pleasant manner; and

it is worth while going to a lot of trouble to get a nurse you like.

Your nurse will probably have a list of articles she will want for the confinement—lint, wool, gamgee, disinfectants, etc. Go over this list with her carefully and order anything you have not got from the chemist.

The Choice of a Nurse for Your Baby

Ninety-nine mothers out of a hundred have to look after their own babies. This is by far the best plan, especially with a first child. You learn a great deal about their ways, you grow to love your baby, you discover a great source of enjoyment denied to mothers who pack their children off to a nursery under the care of a nurse, mothers who only see their children for a few moments every day. It would, I think, be a wise plan if *all* mothers looked after their babies during the first year, for there is nothing so pitiful as nurse-bred children. But when the baby reaches the early toddler stage he becomes rather a handful, and you may have to consider getting a nurse for him, especially if there is another baby on the way.

Choose someone good-tempered, spotlessly clean, cheerful, careful and fond of children : someone that you like as a woman, that you will find easy to live with. Choose someone not too set in her ways, not too grimly efficient, someone with outside interests, with friends of her own. This will mean extra time off, but it's well worth it to get a happy, well-balanced woman. This is much more important than her previous training and experience : actually a highly trained nurse may be rather a nuisance, for she may have her own ideas on the upbringing of children and prefer them to your doctor's and to yours. Her age is *not* of great importance. You will find excellent nurses of all ages—young, middle-aged and old : and the reverse—bad nurses of all ages. Some mothers are happiest with a nurse 10–15 years older than themselves, a nurse with authority and long experience, in whose judgment they can rely implicitly. They are perhaps timid and retiring, they distrust their own capabilities ; to them the feeding and care of babies is a difficult and arduous task, so the motherly protection of the

nurse is a great boon. Others of a more robust personality are happiest with a young girl, for then they can run their babies entirely as they like, leaving the duller part of daily routine to the nurse.

In either case you should learn to appreciate the nurse's point of view and to discuss everything with her as a matter of course. A mother would hardly be human if she didn't feel critical, and perhaps a little jealous of the woman who has so much to do with her baby. She sees the nurse doing things for her baby which she is sure she could do much better herself. She is hurt when her baby turns to his nurse for comfort if he falls and hurts himself—yet this is quite natural; a baby will always prefer the person who does most for him. And so an awkward situation may arise—what one might call the amateur mother *versus* the professional nurse—a situation very embarrassing for both father and doctor, who may be called upon to take sides. Mothers and nurses *must* agree in the main, if only for the sake of the baby.

It is worth while pausing here for a moment to consider: why does a woman become a nurse? Sometimes it is because she has to earn a living and this is the job for which she has a natural flair. Sometimes it is because she has a real instinct for children, but she has no husband or babies of her own. Frustrated in her own natural desires, she showers all her love on a baby which isn't hers; she enjoys his dependence on her, the feeling that she is all in all to him. Isn't that only natural? It isn't altogether good—it may easily lead to over-mothering the baby, who soon learns how important he is and acts up to it promptly with petty tyrannies. Every time he cries, every time he wakes at night, she will rush to him and smother him with kisses; she gives in to him at all times. If he is being a little nuisance, she excuses him on the grounds that "he's not very well to-day." This sort or baby management you must resist: but do it tactfully.

In my opinion mothers are very apt to treat nurses (and, for that matter, housemaids and cooks) as if they were machines, not as women with lives of their own to live. They expect far too much of them, they fail to realise that the work gets dreadfully monotonous at times. The nurse, if she

is to keep fit and well for her job, needs her free evenings, her occasional week-end and a good summer holiday. A nurse's life may have its compensations but her position in the household is often very difficult. She is pretty well on the go the whole time—hers is no 40-hour week; she has little privacy, little time off duty; and she, with all her experience, has to give in with tact and good humour to a mother's whims, whether she agrees with them or not. Where the baby's love is concerned, she has to take second place. She may have to stand by with folded hands while the child's grandmother spoils him abominably; she may be blamed for the child's illnesses or accidents. Now a nurse has feelings like any other woman; she likes gaiety and fun; she too fears sometimes that she is getting old; she too hopes to marry one day and have children. Looking after other people's babies when you long for a baby of your own is not an enviable task, and this probably is the explanation of many of the inexplicable outbursts of temper or moodiness which a nurse may show at times.

It should go without saying that a nurse should be perfectly strong and healthy, yet many mothers still employ nurses who are far from well. No woman with persistent coughs, colds or sore throats is fit to look after a baby of any age, and she should at once go off duty for awhile if she develops an acute nose or throat infection. Nurses who persist in carrying on with their work when they should be in bed are not heroic, but public menaces. Be very careful not to engage a nurse who has a history of "lung trouble" or who has had a nervous breakdown: you are only taking unjustifiable risks with your baby.

Patience and moderation, good humour and self-control are the attributes of mastery, and if a nurse does not possess these virtues she has little chance of being successful. A child may beat us in strength and obstinacy, but woe betide the nurse who attempts to proclaim her superiority in either of these qualities. Commonsense and tact are the best weapons in the nursery: they are the best weapons in dealing with *all* people.

APPENDIX B

THE MATERNITY AND CHILD WELFARE CENTRE

THERE are now just over 4,000 Infant Welfare Centres in England and Wales. Some have antenatal and postnatal clinics, all deal with babies during the first year of life, while some have, in addition, a clinic for toddlers.

A list of these clinics can be obtained from the Association of Maternity and Child Welfare Centres, 117, Piccadilly, London, W.1; or you can get the address of the nearest welfare centre, together with the times of attendance, by applying to the Town Hall. The centres are run by doctors —sometimes men, sometimes women—together with nurses and health visitors, and the work they do is of the greatest importance. Loss of infant life at birth, in the first month of life and from the first to the 12th month, is still much too high in England, as can be seen from the following figures :—

Year	Deaths under 1 month	Deaths between 1st and 3rd month	Deaths between 3rd and 6th month	Deaths between 6th and 12th month	Total
1921	29,932	12,598	11,898	15,823	70,251
1937	18,168	5,721	5,044	6,242	35,175
1940	17,503	5,513	4,948	5,928	33,892

From these figures you will see at once :—

1. The great wastage of infant life that still goes on in England and Wales.

2. That roughly half the infant deaths take place before the baby is one month old, so great care is obviously necessary during these all-important first few weeks of life. Some of these babies are born weaklings, some prematurely, some with defects : and it cannot be expected (or indeed wished for) that all should survive.

3. The great saving of life that has taken place since Infant Welfare Centres were established in 1919–20.

There is no doubt that much of this wastage of life is preventable—the stillbirths by better midwifery ; the deaths in the first year by increased supervision during the first month ; by better breast-feeding ; by the proper education of young mothers ; and this is the work that is being done by the maternity and child welfare centres all over the country. But many infant deaths are due to social and economic causes which the welfare centres are powerless to control—causes such as poverty, bad housing, overcrowding, bad hygiene and sanitation, the employment of young mothers in factories, poor storage of food, poor cooking and, last but not least, lack of knowledge of the care of babies and the running of homes. Two authors writing in 1945 make the following statement : " Of the preventable deaths one-third are associated with overcrowding, one-quarter with low-paid occupations, one-fifth with unemployment, one-eighth with the industrial employment of women. In England and Wales over 250,000 deaths in 10 years, about 63 per cent. of the total, can be attributed to adverse social conditions "—a strong indictment of the times we live in. Health visitors can teach mothers in their homes, doctors at the centres : they cannot tackle the rest.

An infant welfare centre is *not* designed as a clinic for treatment. If your baby is sick and needs medical care, you will be told to go at once to your doctor or to the children's department of the nearest hospital. The welfare centre exists to give advice on all feeding problems, for regular weighings, for test-feeding, for the thorough overhaul of a baby every week or two to make sure that he is forging ahead steadily, for the detection of the earliest sign of disease, for advice as to where to go for treatment ; it exists to give advice on clothes and cots and prams, on vaccination and diphtheria immunisation, to give talks on mothercraft. Before infant welfare centres were set up, this advice was usually given by well-meaning but ignorant friends and relatives, sometimes even by chemists, and the results, as you can see from the figures above, were deplorable. A visit to a doctor for advice on a baby's diet meant fees, fees often that a mother could ill afford, so she was forced to forego proper medical care for her baby.

Infant welfare centres, the standard of whose work is uniformly good, are free to all mothers and babies. You can get dried milk for your baby at reduced rates, also cod-liver oil and malt; and if you can afford very little, arrangements can be made for you to get these free of cost. Medicines are not sold at infant welfare clinics: if they are needed, it is for your doctor or the hospital to prescribe them.

Most mothers return home 10–12 days after their confinement at hospital, and being in many cases tired out by their labours, by a quick return to their home duties they do not take their babies to the welfare centre until the 3rd or 4th week. Now the figures given above show quite clearly that about half of the deaths of infancy occur between the 10th and 30th days; so don't delay—take your baby to the welfare centre *as soon as possible*. If you don't feel fit enough to go yourself, send a note to the welfare centre and ask for the health visitor or nurse to visit you in your own home.

APPENDIX C

RECIPES

"Give me neither poverty nor riches, feed me with food convenient for me."—PROVERBS.

THROUGHOUT the whole of this book I have endeavoured to stress the view that food for young babies should be fresh, simple and natural; that the giving of expensive patent foods and vitamins was not only unnecessary but to be deprecated. It only remains now to add a few simple recipes suitable for the tender age of these young creatures; for if they are to eat and enjoy, you must learn to cook things well and to serve them up looking and tasting delicious. As far as possible avoid cooking special dishes for the baby: cook something that will suit all members of your household, young and old alike. Suppose the family is to have rabbit stew, followed by plums and custard, then the baby can have some of the broth with mashed up vegetables, followed by a little custard.

Before deciding on the meals for the day, see what you have in the larder and think what you can make of it. Many foods, such as fruits and vegetables, go off quickly, so don't buy much more than you need, and don't buy food out of season. The cheaper cuts of meat are often just as nutritious as the more expensive.

In my opinion by far the best guide to cookery is "The A.B.C. of Cookery," published by the Ministry of Food, and obtainable at H.M. Stationery Office or through any bookseller. Price, 1*s*.

Vegetables

Try always to get vegetables as young and fresh as possible, and buy only as many as are needed. In these recipes very little water is used; this, and the use of butter, greatly improves their taste. The water in which vegetables have been cooked should be saved as stock for soups. No soda should ever be used with green vegetables. All vegetables should be strained immediately after they are cooked and not allowed to stand in the saucepan.

Root Vegetables (Carrots, Turnips, Parsnips, Artichokes, Swedes). These should be cut into small pieces after being carefully washed. Since most of the mineral salts are near the outside, earth and grit are best wiped off and as little scraping as possible done. Place the vegetables in a saucepan with a little salt, butter and

4 tablespoonfuls of water, and cook slowly with the lid on. Half an hour is enough for young vegetables; old ones may require twice as long. While cooking they should be tossed frequently to prevent them sticking to the saucepan. When finished, remove the lid and allow a few minutes more on the fire to drive off the water. They are then dished and sprinkled with parsley if desired.

Vegetable Marrow. As above.

Green Vegetables (Cabbage, Sprouts, Kale, Broccoli). Put a saucepan of water on the stove to boil with a heaped teaspoonful of salt in it. When it boils, take out a cupful of water and put in the vegetables, well washed and picked. Allow them to boil for 5 minutes with the lid on and then pour off the water. Now put back the cupful of water, add some more salt, and simmer slowly until the vegetables are soft. This should take 20 minutes. Drain well at once and serve.

Spinach, Turnip Tops. Wash the leaves well and pull off the stalks and coarse fibres. Pack the leaves while wet into a covered saucepan with a little salt and let them cook themselves in their own steam until tender—about 15 minutes. Drain, add a little butter, and stir it in well as it melts. Serve hot.

Cauliflower. These should be cooked head downwards in rapidly boiling water to which salt has been added. Leave the saucepan uncovered. Young vegetables should be soft in 15 minutes. Half a teacupful of milk added to the water improves its flavour; in this case skim the fluid before taking out the cauliflower. Drain well.

Peas, Broad Beans, French Beans. Cook these in boiling water to which some salt has been added for 15 to 30 minutes until tender. If the beans are old, boil them for ten minutes and then remove the outer skins and finish the cooking as before.

Potatoes in their Skins. This is by far the best way to cook potatoes for young children. Half fill a saucepan with potatoes and add just enough water to cover them, and a little salt. Boil very gently with the lid on until soft; this should take about 20 to 25 minutes. Pour off the water and allow the potatoes to dry in the saucepan with the lid off by the side of the fire.

Soups and Broths

Vegetable Soup. 3 large carrots, 3 turnips, 1 onion, 1 breakfast-cupful of milk, 1 teaspoonful of flour, salt.

Clean and cut up the vegetables and cook them till soft in just enough water to cover them. Put them through a sieve and then replace in the saucepan with the milk and salt. Thicken with the flour, mixing it first in a small quantity of cold water. Serve with baked crusts.

Carrot Soup. 1 lb. of young carrots, ½ teaspoonful of sugar, salt, 1½ pints of water.

Clean the carrots and place in a saucepan with 1½ pints of water. Cook very gently until soft. After cooking, the liquid should measure 1 pint. Add the sugar and a pinch of salt.

Pea Soup. 1½ pints of fresh peas, or 1 gill of dried peas; 1 small carrot, turnip and onion; ½ oz. butter; 1 potato; 1½ pints of water; seasoning.

If fresh peas are used, rinse them in cold water; if dried peas, soak them in water overnight and rinse them thoroughly. Prepare the vegetables and cut them up small. Put the peas, vegetables, butter, water and seasoning into a saucepan and bring it slowly to boiling point. Simmer for 2½ hours.

Onion Soup. 3 or 4 onions, 1 pint of milk, 2 thick rounds of bread, pepper and salt.

Blanch the onions in cold water and boil till quite tender. Take them out and put the bread, without crust, into the water in which the onions were boiled. Let it soak well, then rub the bread and onion through a sieve. Return it to the saucepan, add the milk, boil up and add pepper and salt before serving.

Artichoke Soup. 2 lb. of Jerusalem artichokes, 1 oz. butter, 1 oz. flour, 1½ pints of milk, 1½ pints of water or stock, pepper and salt.

Peel the artichokes, dropping each one immediately into cold water containing a little vinegar to preserve their colour, then cook them till tender in just enough milk and water (or stock) to cover them. Rub them through a sieve or mash them thoroughly. Melt the butter in a large saucepan, add the flour, and work together with a wooden spoon till all the butter is absorbed. Draw to the side of the stove and add 1 pint of milk gradually, stirring all the time; then pour in the mashed artichoke and bring to the boil. Simmer very gently for 5 or 10 minutes, season to taste and serve.

Celery Soup. 4 breakfastcupfuls of stock, 1 breakfastcupful of milk, 1½ tablespoonfuls of cornflour, 2 tablespoonfuls of butter, 2 heads of celery, pepper and salt.

Clean and cut up the celery, then boil in the stock till tender. Rub through a sieve. Return to the saucepan, with the cornflour mixed with the hot milk and seasoning. Stir and boil thoroughly and serve hot.

Scotch Broth. Take 1½ lb. of lean breast of lamb. Add 2 quarts of water and 2 tablespoonfuls of salt. Cook gently and continuously for 2 hours. Pour off the fluid into a china basin and when cold remove all the fat. Shred a carrot, a small turnip and an onion. Add to these 1½ tablespoonfuls of barley. Now mix these with the stock and simmer for ¾ hour. A little of the lean meat may be separated from the bone and added, and a pinch of chopped parsley also.

Mutton Broth. 2 lb. scrag of mutton, 3 pints of water, 1 onion, 1 carrot, 1 turnip, 1 oz. of pearl barley, 1 teaspoonful of chopped parsley, pepper and salt.

Wipe the mutton and trim off any extra fat. Place the meat in a saucepan with the water and barley. Bring to the boil and skim. Prepare and cut the vegetables into slices and add them, with a teaspoonful of salt. Cook gently for 1½ to 2 hours. (Remove the meat and serve it separately with parsley and caper sauce.) Remove any fat that has risen to the top and re-heat. Season to taste, add the chopped parsley and serve hot

Eggs

Egg Yolk. Boil an egg for 10 minutes : cut out the yolk and mash it up into a paste with 2 tablespoons of boiled milk. Give 1 teaspoonful of the mixture daily at first, and increase the amount gradually.

Coddled Egg. Half fill a saucepan with water and bring to the boil. Lower the egg into the boiling water so that it does not break, remove the saucepan from the flame, and cover. Do not boil. The egg is cooked in about 8 minutes.

Poached Egg. It is best to use an egg-poacher. Grease the egg-holder with butter. Half fill the pan with water and bring to the boil. Place the shelled egg in the egg-holder and steam until the white is semi-solid.

Scrambled Egg. Beat up the required number of eggs in a basin for a few minutes. Add 1 tablespoonful of milk for each egg, salt to taste, and mix. Put butter, ¼ oz. for each egg, in a saucepan and warm gently until melted. Pour in the mixture and heat, stirring all the time ; when it begins to get creamy it is ready.

Omelette. 2 eggs, 1 oz. butter, seasoning to taste.

Beat the eggs and add the seasoning. Melt the butter in a small frying pan and pour the eggs into the pan. Stir them quickly with a wooden spoon and shake the pan to keep the eggs from sticking. As soon as the mixture begins to thicken, raise the handle of the pan and double the omelette over, allowing it to cook one minute longer. It should be golden brown outside and quite soft inside.

Puddings

Junket. ½ pint of milk, ½ oz. of sugar, nutmeg, 1 small teaspoonful of rennet.

Put the sugar and milk into a saucepan and allow it to get just tepid. Add the rennet, pour into a dish and set aside to cool.

Boiled Custard. ½ pint of milk, 1 oz. of sugar, 2 yolks of eggs and 1 white.

Heat the milk and sugar together but do not boil. Beat the eggs in a pan and pour on the milk. Return to the saucepan and stir over a slow fire until it thickens.

Baked Custard. Prepare as for boiled custard, then put the mixture into a pie dish and bake in a slow oven.

Caramel Custard. For the caramel, 2 oz. of loaf sugar and ½ gill of water; for the pudding, 4 yolks of eggs and 2 whites, ½ oz. of castor sugar, ½ pint of milk, ½ lemon.

Put the sugar and water into a saucepan and boil quickly without stirring until it becomes a dark brown. Now stir it so as to get the same colour all through and pour it into a plain dry mould. Put the yolks and whites of eggs into a basin and beat well. Heat the milk to which the sugar and thinly peeled rind of lemon has been added, strain this on to the eggs and pour into the mould which has been coated with the caramel. Cover with buttered paper and steam slowly for half an hour.

Cornflour Blancmange. 1 oz. of cornflour, ½ pint of milk, a little sugar and 1 lemon.

Mix the cornflour into a smooth paste with a little of the milk. Put the rest of the milk into a saucepan with sugar and thinly peeled rind of lemon. Let it come slowly to the boil, then pour on to the cornflour. Return to saucepan and let it cook over the fire for about 10 minutes, stirring all the time. Pour the mixture into a mould and allow to set.

Milk Jelly. 1 pint of milk, 1 oz. of sugar, 1 lemon, ½ oz. of gelatine.

Put the milk, sugar and thinly peeled rind of lemon into a saucepan, place over a very slow fire and allow to stand until the milk is well flavoured with the lemon. Add the gelatine and stir over the fire until it has melted. The jelly must not be allowed to boil after the gelatine is added or it will curdle. Strain into a basin and stir occasionally until nearly cold. Pour the mixture into a mould and allow to set.

Raspberry Fool, Strawberry Fool. 1½ lb. of raspberries or strawberries, ½ pint of cream or custard, sugar to taste.

Put the fruit through a hair sieve, add sugar to taste, and add whipped cream or custard to the purée.

For any cooked fruit fool (black currant, blackberry, damson, plum, etc.), stew the fruit gently with the sugar and 1 tablespoon of water. When cooked, put through a sieve and add the whipped cream or custard. Do not add all the syrup obtained or the fool will be too liquid.

Suet Pudding. 4 oz. flour, 2 oz. suet, ½ teaspoonful of baking powder, a good pinch of salt.

Chop the suet up finely and stir in the other ingredients and then mix to an elastic dough with water. Turn this out on to a floured board and roll. Wrap in a pudding cloth, which must previously have been well scalded and dredged with flour on the inner side; put in boiling water and cook for 2 hours. This should be served with jam or treacle and is enough for 4 people.

Boiled Apple Pudding. Ingredients as for suet pudding, 1 lb. of apples, 2 tablespoonfuls of syrup.

Prepare the dough as for suet pudding. Butter a pudding basin and line with suet crust. Now fill up the basin with sliced apples and sugar and add the syrup and a little cold water. Cover with rather thick suet crust. Seal the basin with greased paper or cloth and boil or steam for 3 hours.

Apple Charlotte. Brown bread, ½ lb. of apples, brown sugar, butter, juice of ½ lemon.

Peel, core and slice the apples and stew gently to a pulp with the sugar and lemon juice. Cut the bread into thin fingers and fry lightly in butter. Line a well-buttered mould with the fried bread and add the apples. Place a thin slice of bread the shape of the mould on the top and bake in a quick oven until it is brown.

Castle Pudding. 2 eggs, 2 oz. butter, 4 oz. flour, 2 oz. sugar, 1 teaspoonful of baking powder, jam or syrup.

Butter a mould or basin. Put a thin layer of jam or syrup at the bottom. Beat the butter and sugar to a cream, then beat in the eggs one at a time. Stir in the flour sifted with baking powder. Turn the mixture into the mould or basin, cover with buttered paper and steam for 1½ hours. This makes enough for 4 people.

Fish

The best fish to buy for young children are sole, dab, plaice, turbot, halibut, whiting, hake, cod, herring roes.

To Steam Fish. Clean, wash and dry the fish and place on a soup plate or enamelled plate which has been well greased with butter. Flavour with a little salt and cover with greaseproof paper. Place the plate on the top of a saucepan of boiling water and cover it with another plate. Keep the saucepan boiling. The fish will be cooked in about 20 minutes.

To Grill Fish. Wash and dry the fish thoroughly, season with salt and pepper and cover with a little flour. The grill should be red hot before use. Put the fish over the grill and turn frequently, care being taken not to pierce the skin. A fish 1 inch thick takes about 12 to 15 minutes.

To Bake Fish. Wash and dry the fish, place in a greased baking tin, cover with buttered paper and cook in a medium oven. Fillets take about 15 minutes.

To Boil Fish. By this method a good deal of the food value is lost in the water unless special precautions are taken. Wash and dry the fish and cover with a little butter, salt and pepper. Wrap in well-buttered paper and lower it carefully into a saucepan of gently boiling water; use a pan with a drainer to avoid breaking the fish on removal. Boiling takes about 6 minutes per pound of fish and 6 minutes more.

To Fry Fish. Wash the fish in cold water, dry well and roll in a little flour seasoned with salt. Beat up an egg and brush the

fish all over, then place it in breadcrumbs. A fish that is fried in its skin, such as a herring, does not need egg and breadcrumbs. The pan should be well covered with oil or fat, which should be smoking hot. Place the fish in the pan and turn until brown on both sides. When cooked the fish should leave the bone easily.

Herring Roes. 4 herring roes, ½ oz. butter, salt.

Wash and dry the roes. Melt ½ oz. butter in an enamel saucepan ; add the roes ; flavour with a little salt and cook gently for about 10 minutes, turning the roes frequently.

Fish Cakes. 4 oz. cooked fish, 2 oz. mashed potatoes, 1 oz. butter, 1 egg, breadcrumbs, salt.

Remove all skin and bone and chop the fish finely. Melt the butter in a stewpan, add the fish and potato, salt to taste, and stir in a little beaten egg. Cook over the flame until the mixture adheres, forming a ball, then turn on to a plate. When cold, form into cakes ; brush over with the remainder of the beaten egg, coat with breadcrumbs and fry in hot fat.

Kedgeree. ½ lb. cooked fish, cod or haddock ; 2 eggs ; 2 ozs. of rice ; 2 oz. of butter ; seasoning.

Wash and boil the rice and dry it well. Break the fish in pieces, carefully remove all bones and skin. Put the butter in a saucepan ; when melted, add the rice, fish and two eggs slightly beaten. Mix all well together and cook for two or three minutes, until the eggs have thickened. Add a little milk if the mixture is too stiff.

Meat

From the age of 9 or 10 months a baby can take small amounts of meat, such as minced cutlet, cottage pie made with fresh meat, brains, minced liver, rabbit or chicken ; but the best methods of cooking these are so well known that recipes are not necessary. Small slices of beef or mutton, cut up very finely, may also be given.

Various

Hard Baked Crusts. Cut the crust off the bottom of a wholemeal loaf, about one-third of an inch thick. Cut this into fingers about an inch wide. Place on a wire cake stand and bake in a slow oven for about 20 minutes with the door of the oven slightly ajar. Place in a cool, dry place, and when quite cold store in an airtight tin.

Groats. Mix a heaped teaspoonful of Robinson's Patent Groats to a paste with cold water and add a teacupful of warm water. Boil in a double saucepan for ½ to 1 hour, stirring to prevent lumps forming.

Oatmeal Porridge. 2 oz. oatmeal, ¾ pint of water, salt.

Put the water into a saucepan and bring it to the boil. When boiling, sprinkle in the oatmeal, stirring all the time with a

wooden spoon. Continue to stir until the porridge is perfectly smooth and beginning to thicken; then add salt to taste and draw the saucepan to the side of the fire where it may simmer slowly. Allow to cook for at least three quarters of an hour, until the oatmeal is soft. The porridge must be stirred occasionally during the cooking, and if it becomes too thick a little milk or water must be added. When wanted, serve with milk or cream.

Home-made Lemonade. 1 or 2 lemons, 1 pint of water, 1–2 teaspoonfuls of white sugar.

Wash the lemons, clean and cut off the yellow rind very thinly. Put the peel into a jug, add the sugar and pour on the water, boiling. Do not let the pips or white skin drop in or the lemonade will have a bitter taste. When cool, add the juice, strain and keep cold.

Butter-Flour Mixture No. 1. Butter, 2½ level tablespoons; flour, 2 level tablespoons; sugar, 3½ level tablespoons; milk, 1 pint.

Heat the butter over a gentle fire for 3–5 minutes, add the flour and boil for 3–5 minutes until a brownish colour develops. The milk, which has been warmed and which contains the dissolved sugar, is now added.

Butter-Flour Mixture No. 2. Butter, 2½ level tablespoons; flour, 4½ level tablespoons; sugar, 2½ level tablespoons; milk, 1 pint.

Heat the butter over a gentle fire for 3–5 minutes; add the flour and boil for 3–5 minutes until a brownish colour develops. The milk, which has been warmed and which contains the dissolved sugar, is now added. Boil until the mixture has the consistency of thick gruel.

APPENDIX D

SOME USEFUL ADDRESSES

THIS list of addresses has been compiled in case you should need further advice on anything to do with the well-being of mothers and babies. Write to these Societies and they will tell you what to do.

1. Central Bureau of Hospital Information, 12, Grosvenor Crescent, London, S.W.1.
2. National Association of Maternity and Child Welfare Centres, 117, Piccadilly, London, W.1.
3. National Society of Children's Nurseries, 117, Piccadilly, London, W.1.
4. National Adoption Society, 4, Baker Street, London, W.1.
5. National Institute for the Blind, 224, Great Portland Street, London, W.1.
6. National Institute for the Deaf, 105, Gower Street, London, W.C.1.
7. National Council for Mental Hygiene, 39, Queen Anne Street, London, W.1.
8. National Society for the Prevention of Cruelty to Children, 15, Leicester Square, London, W.C.2.
9. National Book Council, 7, Albemarle Street, London, W.1.
10. National Society's Training College of Domestic Subjects, 105, Hillfield Road, London, N.W.6.
11. National Council for the Unmarried Mother, 117, Piccadilly, London, W.1.
12. Marriage Guidance Council, 78, Duke Street, London, W.1.
13. The College of Speech Therapists, 86, Harley Street, London, W.1.
14. After-Care Association for Physically Defective Children, 2, Old Queen Street, London, S.W.1.
15. Parents' National Educational Union, 171, Victoria Street, London, S.W.1.
16. Invalid Children's Aid Association, 117, Piccadilly, London, W.1.
17. The Babies' Club, 35, Danvers Street, Chelsea, London, S.W.3.

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